

Published by
E. HARRISON CAWKER.

Vol. 20, No. 6.

MILWAUKEE, APRIL, 1886.

TERMS: \$1.00 a Year in Advance
Single Copies, 10 Cents.

CAWKER'S AMERICAN FLOUR MILL DIRECTORY FOR 1886

IS READY FOR DELIVERY.

PRICE, \$10.00.

SENT BY MAIL, REGISTERED AND POST-PAID. EVERY

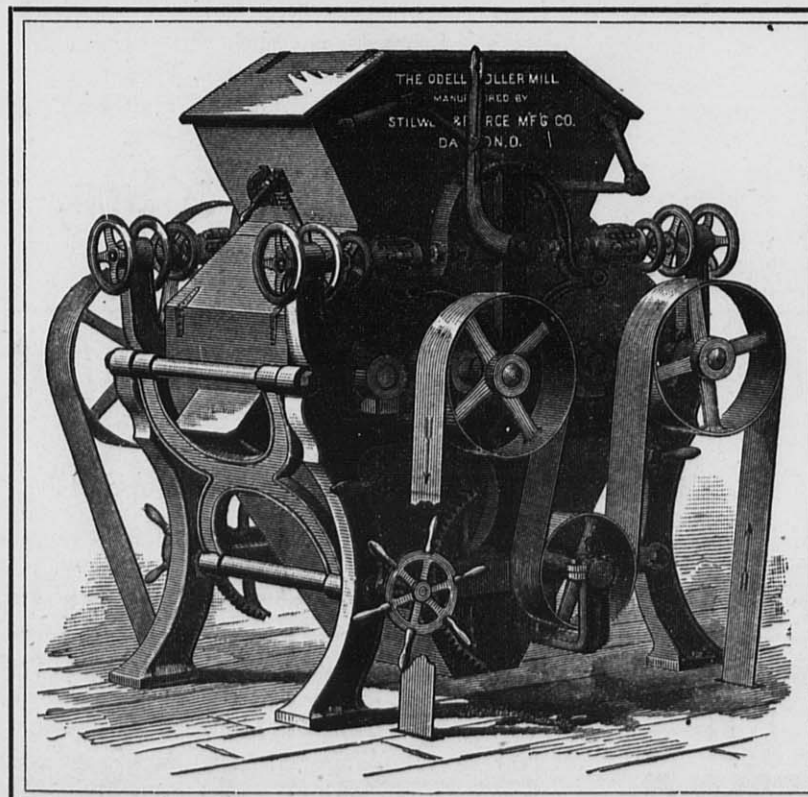
MILL • FURNISHER, • FLOUR • BROKER, • TRANSPORTATION • COMPANY, • INSURANCE • COMPANY
FLOUR IMPORTER, MERCHANT MILLER,

Or anyone desiring to reach those connected with the FLOURING INDUSTRY, should order this Book at once.

THIS Directory contains the names and addresses of 18,289 Flour Mill owners in the United States and Dominion of Canada. It further specifies in many thousands of cases whether stones or rolls or both are used in the manufacture of flour; whether rye, buckwheat, cornmeal or oatmeal are specialties; whether steam or water power is used. Names of Millowners estimated to have over \$10,000 invested in the business are marked by a special sign. It also contains a reliable list of MILLWRIGHTS in the U. S. and Canada, and a long list of the PRINCIPAL FLOUR BROKERS in the U. S. and Canada, and a list of EUROPEAN FLOUR IMPORTERS. These last named lists are of immense value to **MILLERS**. Address all communications and make all paper payable to the order of

E. HARRISON CAWKER, No. 124 Grand Avenue, MILWAUKEE, WIS.

ODELL'S ROLLER MILL SYSTEM



Is now in successful operation in a large number of mills, both large and small, on hard and soft wheat, and is meeting with unparalleled success. All the mills now running on this system are doing very fine and close work, and we are in receipt of the most flattering letters from millers. References and letters of introduction to parties using the Odell Rolls and System, will be furnished on application to all who desire to investigate.

Odell's Roller Mill

Invented and Patented by U. H. ODELL, the builder of several of the largest and best Gradual Reduction Flour Mills in the country.

AN ESTABLISHED SUCCESS!

We invite particular attention to the following

POINTS OF SUPERIORITY

possessed by the Odell Roller Mill over all competitors, all of which are broadly covered by patents, and cannot be used on any other machine.

1. It is driven entirely with belts, which are so arranged as to be equivalent to giving each of the four rolls a separate driving-belt from the power shaft, thus obtaining a **positive differential motion** which cannot be had with short belts.

2. It is the only Roller Mill in market which can **instantly be stopped without throwing off the driving-belt**, or that has adequate tightener devices for taking up the stretch of the driving-belts.

3. It is the only Roller Mill in which **one movement of a hand lever spreads the rolls apart and shuts off the feed at the same time**. The reverse movement of this lever brings the rolls back again exactly into working position and **at the same time turns on the feed**.

4. It is the only Roller Mill in which the movable roll-bearings may be adjusted to and from the stationary roll-bearings **without disturbing the tension-spring**.

5. Our Corrugation is a decided advance over all others. It produces a more even granulation, more middlings of uniform shape and size, and cleans the bran better.

WE USE NONE BUT THE BEST ANSONIA ROLLS.

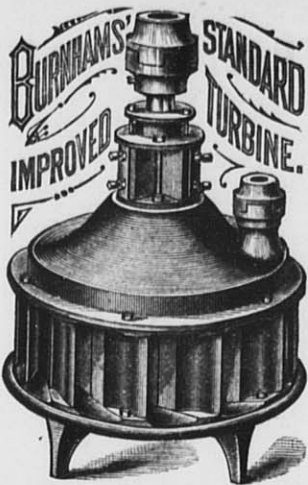
Our Corrugation differs from all others, and produces **less Break Flour and Middlings of Better Quality**.

Mill owners adopting our Roller Mills will have the benefit of Mr. Odell's advice, and long experience in arranging mills. Can furnish machines on short notice. For further information, apply in person or by letter to the sole manufacturers,

STILWELL & BIERCE MANUFACTURING COMPANY, DAYTON, OHIO, U. S. A.

Agents for Du Four's Bolting Cloth.

Office: No. 11 S. George St., York, Pa.



Works: Christiana, Lancaster Co., Pa.

It is the BEST constructed and finished Turbine and gives better PERCENTAGE with part or full gate, and is sold for LESS MONEY per horse power than any other Water Wheel. New Pamphlet sent Free.

Improved + Walsh + Double + Turbine



This wheel has a perfect fitting cylinder gate and draft tube combined, and allows no water to escape when closed.

POWER GUARANTEED

equal to any wheel on the market using equal amount of water. Address for particulars,

B. H. & J. SANFORD,

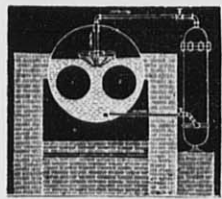
Phoenix Iron Works,
Sheboygan Falls, Wis.

STEEL CAR PUSHER

Made entirely of STEEL. ONE MAN with it can easily move a loaded car. Will not slip on ice or grease.

Manufactured by
E. P. DWIGHT,
Dealer in Railroad Supplies, 407
Library St., Philadelphia, Pa.

[Please mention this paper when you write to us.]



VAN DUZEN'S Mechanical Boiler Cleaner

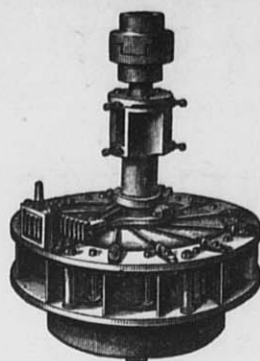
Takes out all mud and scale forming propurities from the water of Steam Boilers, keeping it clean and free from all impurities. Send for circulars. Manufactured by

E. W. VAN DUZEN, Cincinnati, O.

SCIENTIFIC AMERICAN

The most popular Weekly newspaper devoted to science, mechanics, engineering, discoveries, inventions and patents ever published. Every number illustrated with splendid engravings. This publication, furnishes a most valuable encyclopedia of information which no person should be without. The popularity of the SCIENTIFIC AMERICAN is such that its circulation nearly equals that of all other papers of its class combined. Price, \$3.20 a year. Discount to Clubs. Sold by all newsdealers. MUNN & CO., Publishers, No. 361 Broadway, N. Y.

PATENTS. Munn & Co. have also had Thirty-Seven Years' practice before the Patent Office, and have prepared more than One Hundred Thousand applications for patents in the United States and foreign countries. Caveats, Trade-Marks, Copyrights, Assignments, and all other papers for securing to inventors their rights in the United States, Canada, England, France, Germany and other foreign countries, prepared at short notice and on reasonable terms. Information as to obtaining patents cheerfully given without charge. Hand-books of information sent free. Patents obtained through Munn & Co. are noticed in the Scientific American free. The advantage of such notice is well understood by all persons who wish to dispose of their patents.
Address MUNN & CO., Office SCIENTIFIC AMERICAN, 361 Broadway, New York.



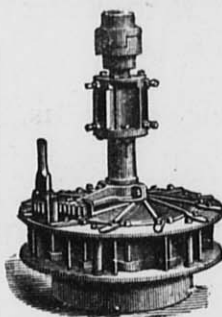
JAMES LEFFEL'S IMPROVED WATER WHEEL,

Fine New Pamphlet for 1885.

The "OLD RELIABLE" with Improvements, making it the Most Perfect Turbine now in use, comprising the Largest and the Smallest Wheels, under both the Highest and Lowest Heads in this country. Our new Pocket Wheel Book sent free. Address,

JAMES LEFFEL & CO., Springfield, Ohio,
and 110 Liberty St., New York City.

[Please mention this paper when you write to us.]



POOLE & HUNT'S Leffel Turbine Water Wheel

Made of best material and in best style of workmanship.

Machine Molded Mill Gearing

From 1 to 20 feet diameter, of any desired face or pitch, molded by our own SPECIAL MACHINERY. Shafting, Pulleys, and Hangers, of the latest and most improved designs.

Mixers and General Outfit for Fertilizer Works.

Shipping Facilities the Best in all Directions.

POOLE & HUNT, Baltimore, Md.

N. B.—Special attention given to Heavy Gearing for Pulp and Paper Mills.

[Mention this paper when you write to us.]



Alcott's Improved Turbine.

This Wheel is considered one of the most correct that has been devised, gives the highest results, and, with late improvements, is now the best, most practical, and efficient Partial Gate Wheel in existence.

For Economy, Strength, Simplicity, Durability, and Tightness of Gate, it has no equal.

State your requirements, and send for Catalogue to

T. C. Alcott & Son,

MOUNT HOLLY, N. J.

[Please mention this paper when you write to us.]

Rolls Re-Ground ~~AND~~ Re-Corrugated

—TO ORDER.—

Also, Porcelain Rolls Re-Dressed,

Our Machinery for this purpose is very accurate. Can do work promptly.

Case Mfg. Co., Columbus, Ohio.

STEEL CASTINGS

Works, CHESTER, PA.

FROM 1-4 to 15,000 LBS. WEIGHT.

True to Pattern, sound, solid, free from blow-holes, and of unequalled strength. Stronger, and more durable than iron forgings in any position or for any service whatever. 40,000 CRANK SHAFTS and 30,000 GEAR WHEELS of this steel now running prove this.

CRANK SHAFTS and GEARING specialties. STEEL CASTINGS of every description. Send for Circulars and Prices to

CHESTER STEEL CASTINGS CO.

[Mention this paper when you write to us.]

Office, 407 LIBRARY ST., PHILADELPHIA, PA

GANZ & CO.,

Budapest, Austria-Hungary.

We are the first introducers of the Chilled Iron Rollers for milling purposes, and hold Letters Patent for the United States of America. For full particulars address as above.

[Mention this paper when you write to us.]

"TRIUMPH" CORN SHELLER

CAPACITY

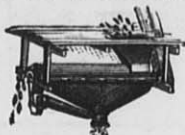
2000 BUSHELS PER DAY.

Shells wet or dry corn.

CHEAPEST AND BEST SHELLER.

PAIGE MANUF'G CO.,

No. 12 Fourth St., Painesville,



THE
Milwaukee, Lake Shore
and Western Railway.

This Railroad is now the acknowledged Fishing and Hunting Line of Wisconsin: Milwaukee to Sheboygan, Sheboygan Falls and Manitowoc.

Through the picturesque scenery of the Fox River Valley, and the cities of Kaukauna and Appleton, noted for their vast water power and manufacturing facilities.

Through Northern Wisconsin and the Michigan Peninsula, the most beautiful Region of Forests, Streams and Lakes in the Great Northwest.

Within its limits are located the best Fishing and Hunting Grounds in the country. The equable climate and the pure air of the Pine Forests, make it a most desirable Sanitarium, especially for sufferers from Hay Fever and Lung Diseases.

Good Hotels, Fleets of Pleasure Boats, and general facilities for comfort and pleasure at Lake Gogebic, the Eagle Waters and Pelican Lake.

Through the most wonderful Mineral Region of the United States; The Gogebic, Montreal and Penokee Iron Ranges. A new and rich field for the Prospector, Speculator and Capitalist. Picturesque scenery and interesting sights for the Tourist. The line terminates at ASHLAND, Lake Superior, well known as a desirable Summer Resort.

The Guide Book for 1886, a book of fifty-six pages, contains full information, Maps and Engravings of the country traversed by the Line, and will be sent on application to the General Passenger Agent.

H. F. WHITCOMB,

Gen'l Manager.

CHAS. V. MCKINLAY,

Gen'l Pass. Agent.

BIRGE & SMITH,

PRACTICAL

Millwrights,

PLANS, SPECIFICATIONS AND ESTIMATES MADE FOR ALL KINDS OF

MILLWORK, MACHINERY, &c.

Flour, Sawmill, Tanners' and Brewers' Machinery

AND GENERAL MILL FURNISHERS.

Cor. East Water and Knapp Sts.,

MILWAUKEE, WIS.

A BARGAIN!

In a Wisconsin town of 3000. A water power Flour and Feed Mill with all the custom she can handle; no opposition; Dwelling House and Ice House (filled, 450 tons), all in the best of order. One man can run the business. Realized in 1885 from tolls \$870, ice \$723, notwithstanding the last three months the mill was practically closed on account of ill health. Will sacrifice the whole for \$3000. Address "BARGAIN", care UNITED STATES MILLER, Milwaukee, Wis.

CHANGED * HANDS.

THE ST. JAMES HOTEL, at Stevens Point, which is well and favorably known to the traveling public has recently changed hands. The present proprietor, Mr. Warren D. Fox, of the famous Fox House, Portage, has taken charge, and will make it second to none in the State.

SITUATION WANTED.

Short advertisements will be inserted under this head for One Dollar each insertion.

WANTED—A practical Oatmeal Miller, one who understands his business and is willing to attend to it. Can receive additional information by calling on, or addressing CHARLES D. DANA, 10 State St., Chicago, Ills.

MILL FOR SALE.

FOR SALE a 75-barrel Roller Mill with Steam and Water Power. A Rare chance. Located in one of the best wheat counties in the state. Reason for selling, old age and ill health. For particulars address MAT. WOLFE, De Graff, Ohio.

FOR SALE, EXCHANGE OR RENT.

Four run Water Mill. Best Water Power in Clinton Co., Ia. Water enough the year round to run 20 run of stones.

JOHN F. MCGUIRE,

Real Estate Agent, Clinton, Iowa.

Preserve Your Copies

—OF THE—

UNITED STATES MILLER

—IN AN—

Emerson Binder

This Binder is suitable for holding the copies of the UNITED STATES MILLER for two or more years; is of the Paper's size, and is strongly made. Price is only EIGHTY CENTS. Sent postpaid on receipt of price. Address,

UNITED STATES MILLER,

Milwaukee, Wis.

Guizot's France

elegantly in fine cloth, gilt tops. A new edition just issued, reduced in price to \$6.00, including postage. This is much the best edition published of this magnificent work, which is known as the best popular history of France. The cost of the imported edition, with substantially the same illustrations is \$36.00, while this is certainly the best in form, and the most desirable for the library. "THE MATCHLESS BRILLIANCY of Guizot's style, his graphic descriptions of men and events, his painstaking minuteness of detail, the lucidity and ease of his style and the admirable philosophic reflections, all combine to render it worthy of the description it bears as the most popular history of France. It is as fascinating as a novel, and as life-like as a theatrical representation of the events and personages it describes. How the set can be sold for that price remains, after much reflection, a mystery, for the work is not sham work, it is well done; altogether it is a marvel of cheapness. Mr. Alden has done much for the cause of good literature, but nothing better than this."—Daily Times, Buffalo, N.Y.

Reduced to \$6

What VICTOR HUGO is in fiction, Cousin in philosophy, Guizot is in history. Among Frenchmen he had but few peers."—Christian Leader, Boston, Mass. "IT IS FAR THE best history of France that has been written. It is a wonder of cheapness."—Christian Advocate, Richmond, Va. "SUCH A HISTORY, by such a writer, and at such a price, should gain readers by the thousand."—Churchman, Richmond, Va. "IN STYLE of cover, firmness of binding, quality of letterpress, affluence of illustration, and lowness of price, this edition of one of the noblest historical works in existence, is one of the most remarkable publications now offered to the public."—Morning Star, Dover, N. H.

ILLUSTRATED CATALOGUE, 132 pages, 4 cts.; Condensed Catalogue, free. The best literature of the world at the lowest prices ever known. Address JOHN B. ALDEN, Publisher, 393 Pearl Street, New York.

ATTENTION READERS!—Read article on Editorial page 176, entitled "A REMARKABLE HISTORY." This is the most wonderful offer we have ever been able to make to our readers. Take this paper home and show it to your sons and daughters.

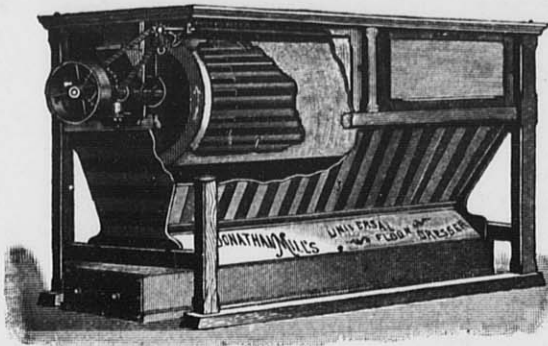
JONATHAN MILLS UNIVERSAL FLOUR DRESSER

GUARANTEED TO BE SUPERIOR TO ANY OTHER BOLTING DEVICE FOR
CLEAR, CLEAN

Bolting or Re-Bolting

OF ALL GRADES OF FLOUR.

They cannot be beat on any Stock, and are being extensively adopted for the entire Bolting in new mills.

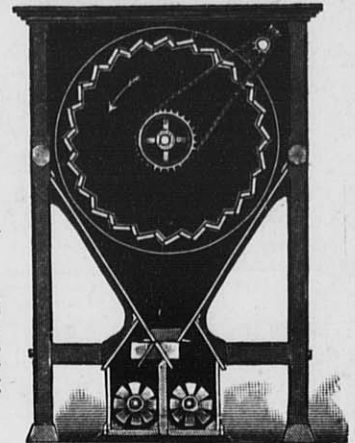


Finely Designed and Mechanically Constructed.

— Slow Speed —

Occupies Small Space, and has Immense Capacity

For Price Lists, Sizes and Dimensions send to the



CUMMER ENGINE CO., CLEVELAND, OHIO.

[Please mention this paper when you write to us.]

Milwaukee & Northern Railroad.

THE OLD RELIABLE ROUTE.

17 Miles the Shortest Line

—TO—

GREEN BAY,

Fort Howard, Depere, Menasha,
Neenah, and Appleton.
Marinette, Wis., and Menominee, Mich.

—THE NEW ROUTE TO—

New London, Grand Rapids, and all points in
CENTRAL AND NORTHERN WISCONSIN.

The new line to Menominee is now completed, and opens to the public the shortest and best route to all points on the Michigan Peninsula.

CONNECTIONS.

AT PLYMOUTH with the Sheboygan and Fond du Lac Division Chicago & North-Western R'y for Sheboygan and Fond du Lac.

AT FOREST JUNCTION with Milwaukee, Lake Shore and Western Railway.

AT GREEN BAY with Chicago & North Western and Green Bay, Winona & St. Paul Railroads, for all points North and West.

C. F. DUTTON, General Supt.



A. BLOEDEL,

Manufacturing

Jeweler and Diamond Setter,

Dealer in

WATCHES, CLOCKS, JEWELRY,

Silver and Plated Ware.

Special Attention Given to Repairing.

No. 106 GRAND AVE.,

Cor. West Water St.,

MILWAUKEE, WIS.

SUPERLATIVE PURIFIER!

“UNLIMITED CAPACITY.”

SALEM MILLS.

SALEM, DAKOTA, FEB. 15TH, 1886.

SUPERLATIVE PURIFIER MFG. CO.,

Milwaukee, Wis.

GENTLEMEN:—We consider the Purifier all you claim for it. It can be controlled to suit the work required and has almost *UNLIMITED CAPACITY*. I can safely say it is the *BEST PURIFIER I EVER SAW*.

E. J. THOMPSON,

Pres't Salem Mill Co.

FOR PRICES, ETC., ADDRESS

SUPERLATIVE PURIFIER MFG. CO.

MILWAUKEE, WIS.



Published by
E. HARRISON CAWKER. { Vol. 20, No. 6.

MILWAUKEE, APRIL, 1886.

TERMS: { \$1.00 a Year in Advance.
Single Copies, 10 Cents.

GLEANINGS FROM THE MILLING JOURNALS.

How many millers stop to think that the reason they do not succeed in their undertakings is because they do not become familiar with their work and their machinery? Not infrequently the miller treats a new machine in the same manner as many a house-keeper treats a new brand of flour. If the latter makes a failure in the use of the new article, the flour is condemned without further comment. Usually a miller does not stay long enough with a machine to understand it thoroughly. Not sufficient time is given, nor attention paid, to gain an insight. When one passes from the light into the dark, large and small objects may be before him, but he is at first unable to discern any. Gradually he can vaguely distinguish something, then he recognizes the larger objects, and after a little more familiarity with his surroundings, he discovers the smaller objects, too. In a measure this is the process of becoming acquainted with new machinery. The small, seemingly insignificant things, are generally the hardest to discover. When a machine becomes disabled, a great defect is easily approached. It is the little, intricate hidden irregularities that try one's adhesiveness and baffle one's hopes to almost desperation. One's watchword should be: Never tire out. If the operative sticks to it, and does not cease to hunt, he possesses the elements of victory. The miller laughs at the uninitiated, because he says, on taking a bird's-eye view of the mill, that he could never understand such a complex system of manipulation. The former knows that the latter could become just as intelligent in regard to the mill as he is, if he would make the necessary exertion and devote the required time. It is familiarity which makes mysteries vanish.—*Milling Engineer for March.*

REGARDING roll diameters. Much doubt exists, . . . but my experience has been in favor of rolls not exceeding 220 to 250 millimeters (8.66 to 9.84 in). The limit of smallness is at a point where the angle of contact is not acute enough to enable the rolls to seize upon all the material with certainty. I regard the use of large rolls on wheat as uselessly expensive. Only in case it is desired to secure long treatment of grain in its passage, or great differential speed, are the rolls of large diameter effective. The corrugation is the important point. If the grooves are too coarse, or the furrows very deep, all claims as to diameter and differential speed will lose force in face of the fact that the berries, sticking deep in the furrows, cannot be touched, whether the

diameter is small or great.—F. VAN DEN WYNGAERT in *Die Muehle*.

A "TIRL" IN THE SHETLAND ISLES.—A Dumfermline tourist who visited Shetland last year, says the *Miller*, of London, Eng., has given a graphic description in one of the local papers of what he saw in the course of his tour. One of the things which came under his notice was one of the primitive grinding mills called the "tirl" mills of Shetland. He had seen numbers of these in a half-ruinous condition in the more northern parts of the main land, indicating that they were being superseded by some superior system. These "tirl" mills are very low erections, generally built in the side of a brea, down which a stream from some hidden hill loch finds its way. By a simple sluicing apparatus the stream is turned when wanted to run under the floor of the mill in a steep, sloping artificial channel. In this channel is placed an upright circular-shaped piece of wood, having an iron spindle in the center. The lower end of the spindle is fixed in the channel, while the upper end finds its way through the floor of the mill and is attached by a cross-piece to the upper millstone. The circular-shaped piece of wood is fitted with six projecting boards, against which the water strikes as it rushes down its prepared course, and so sets the upper stone in motion. Through an opening in the center of this stone the corn is fed in by hand, and the meal, as it is ground, percolates from between the stones, and falls on a clean clay or boarded portion of the floor, from whence it is gathered. The stones are about 30 inches in diameter and from three to five inches thick. Grinding mills of a more modern type are now, however, established in several districts among the islands, and gradually the "tirl" is being replaced by the superior article. Still the "tirl" and even the quera, driven by hand, are found in use in various parts of both Shetland and Orkney.

LESSONS FROM THE EXPERIENCE OF THE NEW ENGLAND MILL MUTUALS.

The net amount of insurance carried by the nineteen mill mutual insurance companies of New England during 1885 was \$391,910,168. The net premium receipts were \$3,482,820. The losses incurred were but \$521,163. Dividends made upon premiums paid the previous year, after deducting losses and expenses, were \$2,428,800. The expenses and taxes last year were \$256,665. Upon each \$100 insured for twelve months the average premium was 88 cents; the loss was 13.3 cents, expenses and taxes were 10.8 cents; and the proportion of the premium assigned to payment of losses

was 15.1 cents. These figures not being at all rhetorical may be very dry to those not noticing their significance; but to all underwriters who give them due attention they are full of important meaning and eloquent with instruction. This becomes the more obvious from the percentages to be deduced from the particulars as above given. The losses incurred during 1885 were but 15.10 per cent. of the premiums; the taxes were 1.72 per cent.; and the net expenses were but little over one-third of 1 per cent., being 0.35 per cent. The total expenditures were but 17.17 per cent. of the premium receipts; and of the entire premium income, that reserved at risk of future business was 82.83 per cent. These are very remarkable results. This experience of losses, so small in proportion to the premiums which it is deemed prudent to require, has supervened to companies of a particular class, conducted according to a specific and prescribed method. The method hardly needs to be stated. All the insurance world knows that the means relied upon for accomplishing results that are indeed so wonderful, is careful and continuous inspection, and insistence upon specified conditions of safety and appliances for overcoming fires in their very beginning. There is no secret in the matter. If there were, other companies might desire to obtain it at even as great a price as the Roman officer who conversed with Paul had paid for the freedom of Roman citizenship. But the system in use by the mill mutuals is open and proclaimed. Any organization is at full liberty to practise it. There appears no reason why stock companies generally may not use the same methods and reduce losses in like proportions. Extended fields of operation and diversity of risks may indeed present difficulties to the rigid application of these principles; but surely these obstacles may be in a large measure overcome by resolute purpose. The value of thorough and continuous inspection in preventing fire-losses, may be considered as demonstrated. It may be regarded as proved for all companies alike, and all may avail themselves of the teaching. The lesson is made still more plain and forcible by the noteworthy circumstance that there is no wide difference in the percentage of losses to premiums throughout these nineteen companies. The variations that appear are not large. The methods used work well in every case, and explain how it is that, out of the premiums received in 1884 nearly two and a half millions of dollars could be returned to members in 1885. This must for all companies be the true way of making fire underwriting productive of profit, and consequently, satisfactory dividends.—*Insurance Critic (N. Y.) for March*

BELTS AND PULLEYS.

By courtesy of the publishers* we are able to reproduce illustrations from "Cromwell's Belts and Pulleys," of a variety of arrangements for transmission of power by belts.

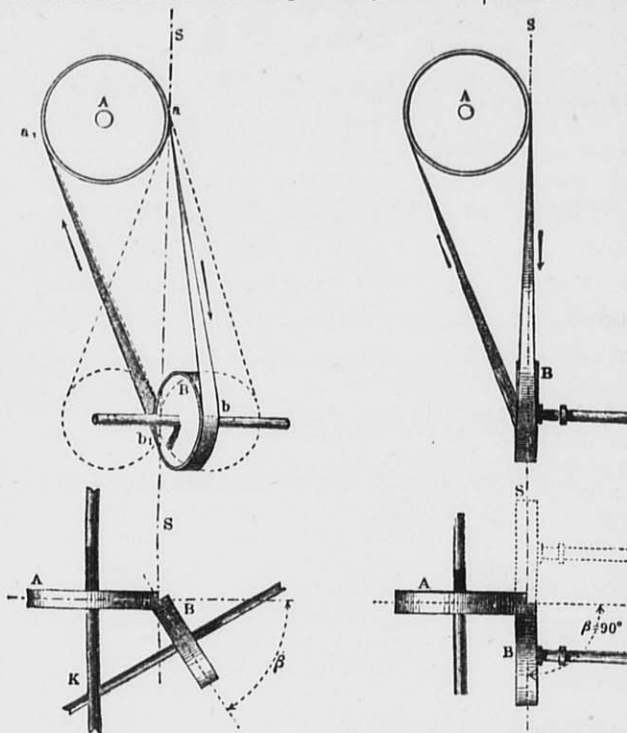


Fig. 1.

Fig. 1 shows an arrangement of belts without guides for cases in which the axes cross

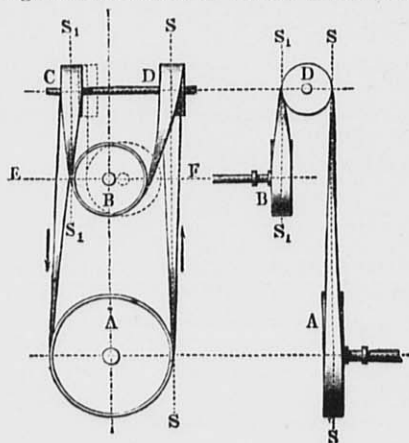


Fig. 2.

without being in the same plane. In this case must be exercised to place the pulleys

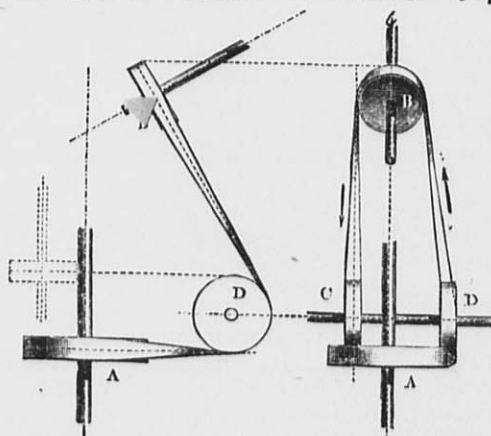


Fig. 3.

in such a manner that the line of intersec-

tion of their middle planes shall be tangent to the circles contained in these planes at the points in which the belt leaves the pulleys.

Fig. 2 shows a plan of transmission with pulley guides for pulleys with parallel axes.

In order that the belt may run properly upon the pulleys and pulley guides, the point in which the belt leaves each pulley must be the point of tangency between the pulley and the line of intersection of its middle plane with that of the following pulley.

Fig. 3 represents a transmission by belt for two pulleys, the axes of which intersect each other.

Fig. 4 represents a disposition for transmission by half-crossed belt with pulley guide. In this disposition, and in all others, the direction of rotation must be indicated in the figure. This mode of transmission is very convenient when we wish to drive a series of vertical arbors from one horizontal shaft. When the pulleys of

transmission cannot be so placed that the line of intersection of their middle planes is a common tangent to the circles in the planes, it becomes necessary to make use of two pulley-guides.

Fig. 5 represents an arrangement which may be adopted in such cases.

Fig. 6 represents a special application for the case in which the line of intersection SS of the middle planes passes through the centre of the middle circle of one of the pulleys of transmission; in this figure, the axis of the pulley B is supposed to be situated in a plane parallel to the pulley A . After having obtained the line of intersection SS , we choose upon it two arbitrary points, c and c , through which we draw, to the middle circles of the pulleys of transmission, the tangent lines c, a, c, b, c, a , and c, b . The planes, c, a, b , and c, a, b , which are thus determined, are those of the two pulley-guides, which should be placed respectively in contact with the above-named tangent lines. With this disposition, rotation may take place equally well in either direction.

If the distance AC is great compared with the width of the belt, the pulley guides, instead of being the one above the other, may be placed upon the same axis. When on ac-

count of lack of space, it is impossible to make use of one of the dispositions which we have described above, we ought to seek, at least, to place the axis of the pulley-guides in the middle plane of one of the principal

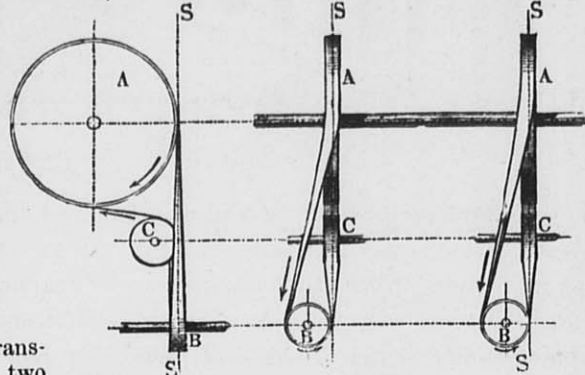


Fig. 4.

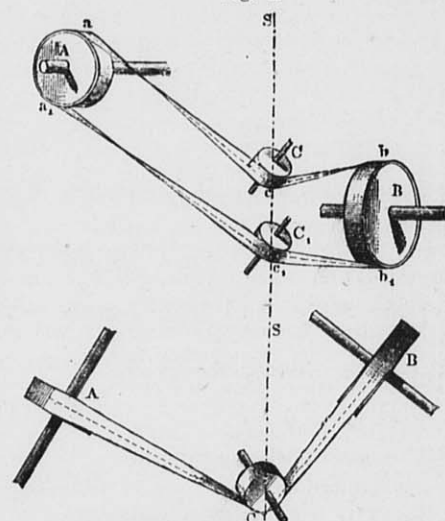


Fig. 5.

pulleys, and the pulley-guides themselves parallel to each other, as, for example, in Fig. 7.

By making the belt pass over a fourth pulley, we may obtain an arrangement by which we may drive two pulleys, B and C , by means of a single driving pulley, A .

Fig. 8 represents a disposition of this kind much used in spinning mills. The arbors, B and C , are in different stories of the building, and each bears two pulleys, one fixed and the other loose.

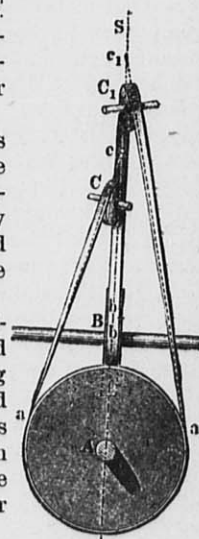


Fig. 6.

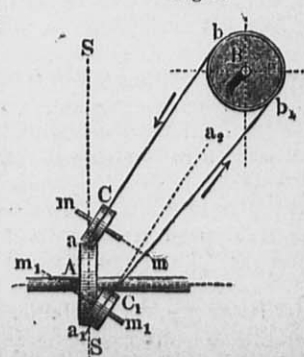


Fig. 7.

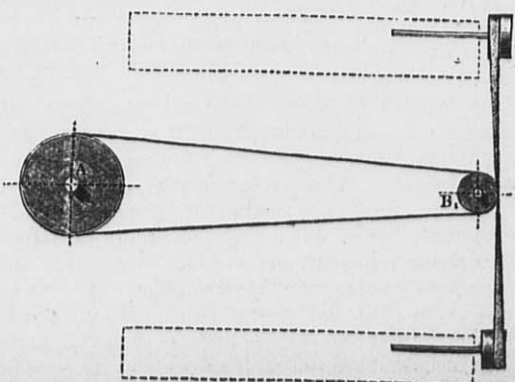


Fig. 8.

*John Wiley & Sons, New York, N. Y., publishers of and dealers in all kinds of mechanical and scientific books.

Practical Books for Practical Men.

ADOPTED TO THE WANTS OF ALL.

IF you want any books to aid you in your business, consult the following list. If there is any other book you want, not on this list, send the title of the book to us with the name of author if possible, and we will supply it at publishers' lowest price, post-paid, to any address in the world. If you desire books sent by mail REGISTERED, enclose 10 cents additional to price of each book. All orders filled promptly. Remit by Post Office Money Order, Express Money Order, Registered Letter, or Bank Draft on New York, Philadelphia, Chicago or Milwaukee. Make all orders payable to

E. HARRISON CAWKER,

Publisher of the "United States Miller," No. 124 Grand Ave., Milwaukee, Wis.

The Principles of Mechanism and Machinery of Transmission:

Comprising the principles of mechanism, wheels, and pulleys, strength and proportion of shafts, coupling of shafts, and engaging and disengaging gear. By WILLIAM FAIRBAIRN. Beautifully illustrated by over 150 wood-cuts. In one volume, 12mo.\$2 50

American Miller and Millwright's Assistant.

By WM. CARTER HUGHES. A new edition, in one volume. 12mo.\$1 50

Lukin.—The Young Mechanic.

Practical Carpentry. Containing directions for the use of all kinds of tools, and for construction of steam engines and mechanical models, including the art of turning in wood and metal. By JOHN LUKIN. Illustrated. 12mo. \$1 75

Lukin.—Amongst Machines.

Embracing descriptions of the various mechanical appliances used in the manufacture of wood, metal, and other substances. 12mo.\$1 75

Lukin.—The Boy Engineer.

What they did, and how they did it. With 30 plates. 18mo.\$1 75

Leffel.—On the Construction of Mill Dams.

Comprising also the building of race and reservoir embankments and head gates, the measurement of streams, gauging of water supply, etc. By JAMES LEFFEL & Co. Illustrated by 58 engravings. 1 vol. 8vo.\$1 50

The Indicator and Dynamometer.

With their practical applications to the steam engines. By THOMAS J. MAIN, M. A. F. R. Ass't Prof. Royal Naval College, Portsmouth, and THOMAS BROWN, Assoc. Inst. C. E., Chief Engineer R. N., attached to the R. N. College. Illustrated. From the Fourth London Edition. 8vo.\$1 50

Questions on Subjects Connected with the Marine Steam Engine.

An examination paper; with hints for their solution. By THOMAS J. MAIN, Professor of Mathematics, Royal Naval College, and THOMAS BROWN, Chief Engineer, R. N. 12mo., cloth.\$1 50

The Marine Steam Engine.

By THOMAS J. MAIN, F. R. Ass't S. Mathematical Professor at the Royal Naval College, Portsmouth, and THOMAS BROWN, Assoc. Inst. C. E., Chief Engineer, R. N. Attached to the Royal Naval College. Authors of "Questions connected with the Marine Steam Engine," and the "Indicator and Dynamometer." With numerous illustrations. In one vol. 8vo.\$5 00

Mechanics' (Amateur) Workshop.

A treatise containing plain and concise directions for the manipulation of wood and metals, including casting, forging, brazing, soldering and carpentry. By the author of "The Lathe and its Uses." Third edition. Illustrated. 8vo. \$3 00

Molesworth's Pocket Book of Useful Formulæ and Memoranda for Civil and Mechanical Engineers.

By GUILFORD L. MOLESWORTH, Member of the Institution of Civil Engineers, Chief Resident Engineer of the Ceylon Railway. Second American, from the Tenth London Edition. In one volume, full bound in pocket-book. \$1 00

Nystrom's New Treatise on Elements of Mechanics.

Establishing Strict Precision in the Meaning of Dynamical Terms: accompanied with an Appendix on Duodenal Arithmetic and Metrology. By JOHN W. NYSTROM, C. E. Illustrated. 8vo.\$2 00

Pallett.—The Miller's, Millwright's, and Engineer's Guide.

By HENRY PALLET. Illustrated. In one vol. 12mo.\$3 00

The Practical American Millwright and Miller.

By DAVID CRAIK, Millwright. Illustrated by numerous wood engravings, and two folding plates. 8vo.\$5 00

Catechism of the Marine Steam-Engine.

For the use of Engineers, Firemen, and Mechanics. A practical work for practical men. By EMORY EDWARDS, Mechanical Engineer. Illustrated by sixty-three engravings, including examples of the most modern engines. Third edition, thoroughly revised, with much additional matter. In one volume, 12mo. 414 pages.\$2 00

The Practical Steam Engineer's Guide.

In the design, construction and management of American Stationary, portable, pumping, and steam fire-engines, boilers, injectors, etc. For the use of Engineers, Firemen and Steam Users. By EMORY EDWARDS, author of "Catechism of the Marine Steam-Engine." "Modern American Marine Steam-Engines," etc. Illustrated by about 100 engravings. In one volume of about 350 pages. 12mo.\$2 50

Practical Rules for the Proportions of Modern Engines and Boilers for Land and Marine Purposes.

By N. P. BURCH, Engineer. 12mo.\$1 50

Recent Improvements in the Steam-Engine.

In its various applications to mines, mills, steam navigation, railways and agriculture. Being a supplement to the "Catechism of the Steam-Engines." By JOHN BOURNE, C. E. New Edition. With numerous illustrations. 16mo. Cloth.\$1 50

A Practical Treatise on Mechanical Engineering.

Comprising metallurgy, moulding, casting, forging, tools, workshop, machinery, mechanical manipulation, manufacture of steam-engines, etc., etc. With an appendix on the analysis of iron and iron ores. By FRANCIS CAMPBELL, C. E. To which are added, Observations on the Construction of Steam Boilers and Remarks upon Furnaces used for smoke prevention; with a chapter on explosions. By R. ARMSTRONG, C. E., and JOHN BOURNE. Rules for calculating the change wheels for screws on a turning lathe, and for a wheel-cutting machine. By J. LA NICCA. Management of steel, including forging, hardening, tempering, annealing, shrinking and expansion. And the case-hardening of iron. By G. EDE. 8vo. Illustrated with 29 plates and 100 wood engravings.\$6 00

The Practical Draughtsman's Book of Industrial Design, and Machinists and Engineer's Drawing Companion.

Forming a complete course of Mechanical Engineering and Architectural Drawing. From the French of M. Armengaud the elder, Prof. of Design in the Conservatoire of Arts and Industry, Paris, and MM. Armengaud the younger, and AMOROUX, Civil Engineers. Rewritten and arranged with additional matter and plates, selections from and examples of the most useful and generally employed mechanism of the day. By WILLIAM JOHNSON, Assoc. Inst. C. E., Editor of "The Practical Mechanic's Journal." Illustrated by fifty folio steel plates, and fifty wood-cuts. A new addition 4to, half morocco.\$10 00

The Construction and Management of Steam Boilers.

By R. ARMSTRONG, C. E. With an Appendix by ROBERT MALLETT, C. E., F. R. S. Seventh Edition. Illustrated. 1 vol. 12mo.75

Carpentry Made Easy.

Or, the science and art of framing on a new and improved system, with specific instructions for building balloon frames, barn frames, mill frames, warehouses, church spires, etc. Comprising also a system of bridge building, with bills, estimate of cost, and valuable tables. Illustrated by forty-four plates, comprising nearly 200 figures. By WILLIAM E. BELL, Architect and Practical Builder. 8vo.\$5 00

The Complete Practical Machinist.

Embracing lathe work, vise work, drills and drilling, taps and dies, hardening and tempering, the making and use of tools, etc., etc. By JOSUA ROSE. Illus. by 130 engravings. 1 vol. 12mo., 376 pages.\$2 50

The Slide-Valve Practically Explained.

Embracing simple and complete practical demonstrations of the operation of each element in a slide-valve movement, and illustrating the effects of variations in their proportions by examples carefully selected from the most recent and successful practise. By JOSUA ROSE, M. E., Author of "The Complete Practical Machinist," "The Pattern-maker's Assistant," etc. Illustrated by 35 engravings.\$1 00

Roper's Practical Hand-books for Engineers.

"Hand-Book of Land and Marine Engines," \$3 50. "Hand-book of the Locomotive," \$2 50. "Catechism of High-Pressure Steam Engines," \$2 00. "Use and Abuse of the Steam Boiler," \$2 00. "Engineer's Handy-Book," \$3 50. These books embrace all branches of steam engineering—stationary, locomotive, fire and marine. Any engineer who wishes to be well informed in all the duties of his calling, should provide himself with a full set. They are the only books of the kind ever published in this country, and they are so plain that any engineer or fireman that can read can easily understand them.

Moore's Universal Assistant.

A Hand-book of fifty thousand industrial facts, processes, rules, formulæ, receipts, business forms, tables, etc., in over two hundred trades and occupations. Together with full directions for the cure of Disease and the maintenance of health. By R. MOORE. A new revised edition. Illustrated, \$2 50.

RELIGIOUS ASPECTS OF THE AMERICAN PROTECTIVE TARIFF.

SECOND REPLY TO J. C. BATES, OF CHICAGO, BY JOHN W. HINTON, OF MILWAUKEE.

Editor of the United States Miller:—

NORTHWESTERN TARIFF BUREAU, }
MILWAUKEE, MARCH 31, 1886. }

I was hopeful that the discussion of the tariff question between Mr. Bates and myself, would be conducted as gentlemen should deal with one another, and that my opponent would abstain from all personalities. His reply in the March number of the UNITED STATES MILLER dispels the hope. While casting no censure, I am compelled to class his communication with those styled by Carlyle, "A wash and vapidty, fit only for the gutter."

Perhaps Mr. B. is more to be pitied than blamed, as associations exert good or bad influence according to their qualities. Animals are at times detected by the sounds they emit, occasionally by their obnoxious effluvia. They cannot help it. As Esmond says: "The leopard follows her nature as the lamb does, and acts after leopard law; she can neither help her beauty, nor her courage, nor her cruelty, nor a single spot on her shining coat, nor the conquering spirit which impels her, nor the shot which brings her down."

The baser instincts of our nature now and then dominate the moral as well as the mental qualities of minds. If Mr. B. chooses the gutter, I shall leave him to his choice of routes, confining myself to an exposure of his sophistries and a refutation of his erroneous statements. At nearly the end of a column, devoted to gross and irrelevant personalities having no bearing whatever upon the issue between us, he says: "The tariff from 1846 to 1860 was generally satisfactory."

More positive proof of a persons ignorance of what he is writing about could not be produced, for during those years depression after depression followed, culminating in a panic (1857) that spread desolation and distress over the land; while during those years we mined in California over a billion dollars in gold almost all of which was sent to England, &c., to pay for foreign goods while our own labor was idle and so impoverishing the United States that we could not borrow money at twelve per cent.

The panic of 1857 was truly terrible in its effects on American labor. In Pittsburg in 1856 skilled mechanics worked for 50 cents a day cleaning the streets; many existed on charity. In Milwaukee good mechanics were unable to earn 40 cents a day. Depression everywhere existed in this country. To refute Mr. Bates' fallacious assertions, I briefly quote from an "address to the people of the United States:—"

"In 1846, and in March, 1857, the duties, imposed by the Act of 1842, were again reduced to nearly the free trade standard."

The large importations consequent on these invitations to British manufacturers, was followed in the fall of 1857 by the financial convulsion of that year, during which all the banks of all the states suspended specie payments, and the Bank of England, for the want of remittances from the United States, was compelled to suspend Sir Robert Peel's bill, limiting the amount of paper to £14,000,000, now £15,000,000, as the amount which may be issued by the Bank of England

upon security of the public debt. As our duties were lowered, our importations, aided by the action of British manufacturers, increased from \$100,162,087 under protective tariff in 1824 annually increasing up to \$360,800,141 in 1857.

Great complaint of the British manufacturers was made in England for their imprudence in 1857 in sending, as they did, such an enormous amount of their goods to the United States, in excess of what could be paid for. It was to this imprudence that the disasters in Britain were due. The depression of the manufacturing interests of this country was so great that President Buchanan in his message to Congress in 1857 mentions it.

By the lowered and *ad valorem* rates of 1846, under which so much fraud has always been practiced, the result that the free traders desired was brought about. In 1849 and 1850 upwards of 200,000 tons of railroad iron was dumped into this country from England at about \$40 a ton, closing up our mills and ruining the iron business generally. During the years from 1850 to 1854 inclusive, England sold to this country 800,000 tons of railroad iron making us pay \$75 a ton or \$35 a ton more than she had charged for rails until she had succeeded in closing our mills, &c. Had protective tariff continued the railroad iron could have been furnished by American mills, from American material, and by American labor, at \$50 a ton, and by employing our own labor, we should have saved the \$60,000,000 which went into the pockets of the British capitalists, excepting that portion of it which was paid to influence American legislation through American free traders. The money that should have kept our mills running was sent to England to run English mills while American mills were closed, or, as Mr. A. S. Hewitt put it before his own workmen in New Jersey, after he had failed to get a contract: "I offered to make the rails at the very lowest at which they could be made at the present rate of wages. An English agent came there and underbid me and got the contract. Thus for the want of a protective tariff is the money sent to England, to employ English workmen, that ought to have come here to employ you."

Mr. Hewitt was then a protectionist, and remained so for a number of years, later on saying of protective tariff and its benefits: "These duties have conferred one great benefit. In the late era of depression (referring to that of 1873, &c.), they have prevented this country from being the sink into which the surplus iron of other countries would be flung. Had the duties been low enough, iron importations would have destroyed our business and closed our establishments."

In May, 1879, O. W. Potter, Esq., President of the North Chicago Rolling Mill Co., addressing a body of iron manufacturers at Pittsburg said:

"English capital and free trade can shut up every iron and steel establishment west of the Alleghenies in three years, and every one east of them in five years; and it will not be five years before we will be face to face with this issue."

Now what does Mr. Symes, an Englishman and formerly a free trader say, after witnessing the effects of English free trade in other countries:

"In any quarter of the globe where a competition shows itself as likely to interfere with her monopoly, immediately the capital of her manufacturers is massed in that particular quarter, and goods are exported in large quantities and sold at such prices that outside competition is effectually counted

out. English manufacturers have been known to export goods to a distant market and sell them under cost for years, with a view to getting the market into their own hands again."

The lowered tariff of 1846 and 1857, gave Mr. Bates' British allies ample opportunity to play the game of glutting and stifling. Hence there is a measure of truth in Mr. B.'s assertion "that the tariff from 1846 to 1860 was satisfactory generally," but only to British and American free traders.

As soon as the evils of those low tariff years could be corrected it was done. Immediately after the rebellion broke out—and it was fought for free trade with England by the South—the Morrill tariff was passed, with such beneficial results as to startle the world, for never before had any nation, while engaged in one of the bloodiest wars of modern times, laid the foundations for future greatness and marvelous wealth. True we piled up an enormous debt, but at the same time created the means whereby we could discharge that debt, and which we have been doing faster than was ever before done by any nation, as testified by John Bright and other Englishmen of note, even by Gladstone, who says "we are passing England with a bound." The results of our wise tariff legislation were tersely stated by Senator Frye at the banquet of the Boston merchants a short time ago. I commend the perusal to Mr. Bates. Senator Frye said:

"The history of this Republic for the last quarter of a century has been a marvelous illustration of the beneficence of the principles of the legislation which created the tariff. Why, sir, we took 4,000,000 of our people out of our producing classes in that quarter of a century, made them consumers and destroyers, and the waste must be counted by billions of dollars, the loss of life by hundreds of thousands of men; and yet every year of that quarter of a century we increased in population a million. More than England, France, Germany, Austria and Italy combined, increased in population in the same length of time. We grew in wealth from \$16,000,000,000 to \$43,000,000,000, or as the apostle of free trade has said \$52,000,000,000. Again we increased in products of the farm from \$1,500,000,000 to \$3,500,000,000, again, in products of the manufactories from \$1,800,000,000 to \$6,000,000,000. Is it not well that people should bear burdens like these?"

But as free traders like Mr. Bates may question the truth of American authority, I will quote a foreign author, Alexander McEwan, who, writing to Lord Beaconsfield, December 1, 1879, nearly eighteen years after the enactment of the Morrill tariff of 1861, said:

"The United States have grown from 20,000,000 of population in 1845 to 50,000,000 at the present day; their exports from \$100,000,000 to \$775,000,000 per annum. Their home trade, carefully protected, estimated now at more than \$5,000,000,000, exceeds our whole home and foreign trade put together. As far as their relations to us are concerned, they are sending us this year over \$500,000,000 of commodities, and taking from us about \$100,000,000, and while we take from America principally food and cotton, the commodities she takes from us are such as she can produce herself, or do, without in case of need. In war she would be independent of us, but in our requirements we are absolutely dependent upon her."

In 1879, Thomas Bayley Potter, President of the English Cobden Club, made a tour through this country, established agencies of the Cobden Club in New York and Chicago; implored the New York Chamber of Commerce to intercede with Congress for the

lowering of our tariff. Returning to England in his speech at Rochdale, said :

"It was like new life to me to visit America, and to see in her boundless resources of the soil, in the development of education, in the sober industry of her people, and in her devotion to peace a security for the progress of mankind. I seemed to regain faith in the future of humanity, and confidence that the English race would continue to lead the van in progress."

At the same meeting, Mr. John Bright, made a speech, highly eulogistic of the United States and the condition of its people, which called out a letter from a British workingman published in the *New York Evening Post*, the organ of the Cobden Club, where he said :

"The wonderful speech of Mr. John Bright, at Rochdale; wonderful because it was so filled with a description of your own wonderful country—caused many of us to determine that America must be our home at the earliest possible moment. Many also, with myself, would be glad if that moment could only be the present one; that is impossible."

John Bright said at Birmingham, England, to workingmen, every person, who had emigrated to the United States from England, was better off than they could have been had they remained in England.

In reply to Mr. Bates' statement: "The avowed purpose of Cobden and his associates was to make England the workshop of the world, permitting other countries to furnish her food and raw material without duty, cheapening alike the cost of material to be manufactured and the living expenses of her workmen. She took her free trade in five great installments beginning some forty years ago and ending in 1866, each step demonstrating conclusively the steady advance of her commerce and manufactures."

Not a single prophecy ever made by Mr. Cobden has been fulfilled. England's declension commenced with the alleged repeal of the Corn Laws. From every ninth person in England, being a pauper, to every seventh, until in a recent letter of Sir Edward Sullivan says "every fifth person in England toes the line of pauperism." To-day England has and has had for years, the highest tariff in the world. I have already given the number of her custom houses, custom officers, revenue cutters, &c. As to England's free trade there is not an intelligent free trader that at this late day makes such a foolish assertion.

As to wool, &c., Mr. Bates says: "The manufacturer of woollens does not hesitate to express his ability to hold his own against the world if he can have free wool. Give him free wool and he will be a bigger customer for domestic wool than ever before."

Well, the tariff on wool, and woollens, and woolen garments, was lowered in 1883. Result, wool went down, foreign wool imported in immense quantities and less domestic wool used. In 1883, under the old tariff, \$902,000 of women's cloaks imported, in 1884, about \$5,000,000 imported. In Chicago from 500 to 600 cloakmakers thrown out of employment; in New York city nearly 2000. Sunset Cox, democratic free trader, hounded by the idle cloakmakers, introduces a bill to restore the tariff of 1867. Mr. Bates had better try, try again.

As to clothing of common qualities, I quote from my reply to Joseph Medill, September 25, 1883.

"As to clothing for mechanics, Mr. Medill's statement is entirely incorrect. Had he enquired of Marshall Field, or Mr. Farwell of Chicago, or Mr. Claflin, New York, the heaviest dealers in goods for clothing in the world, he could have learned that nowhere in the world can a mechanic or working man clothe himself so cheaply and so well as he does in this country. Hundreds of mechanics come over from Windsor in Canada, to Detroit, for the sole purpose of buying American ready-made clothing, because it is not only cheaper but much better. The *New York Herald* recently showed up the facts that New York was the cheapest place in the world for a mechanic to clothe himself in. The *American Protectionist* of April 23th, 1882, reprinted the article. The manager of Willoughby & Hill's clothing house in this city, told me to-day, how, when they had a branch store in Buffalo, the Canadians used to come over and buy suits of clothes, and put their old ones over them and return; and ask at the Golden Eagle, in this city and you'll find the same is true."

It is useless to quote truths to some persons

"Destroy his webs of sophistry in vain,
The creature's at his dirty work again."

If Mr. Bates would read the papers he would see that every labor organization in the country is opposed to lowering the tariff, without a single exception, and that no one in this country has ever been so effectually sat down upon, as has Mr. Morrison, the chairman of the Ways and Means Committee, by numberless workingmen. I quote but one who addressed the Committee :

"Gentlemen—I am not a speech-maker, I make iron. I have no education. I was born in England. At eight years of age I was put to work in the iron mills of my native town; I was paid one shilling (25 cents) a day. After a few years I began to earn five shillings (\$1.25) a day, at which I might have labored for the rest of my life. I heard that labor was protected in the United States. I came here 15 years ago. I now earn \$5 a day. I have nine children and every one of them going to school. That is the reason that I am in favor of protecting American labor—that means the industries which give American labor its employment."

(That man probably read the *Inter-Ocean*.) Other instances could be given. My countryman and myself may be foolish, but we are both believers in the truth of what the *Inter-Ocean* said, and which has so irritated Mr. Bates:

"A protective tariff stands at the elbow of every laboring man in this country to help him to better wages, to a more independent condition, and to a higher development of his faculties. It is the refuge for his weakness and the bulwark of his strength."—*Inter-Ocean*, Dec. 15, '80.

Relative to foreign labor as "contracted for &c." I am bitterly opposed to it, and have over and over again said so. But Mr. Bates, like Mr. Morrison, used the assertion for clap-trap. The same reply made by a laboring man to Mr. Morrison, will apply to Mr. Bates. Mr. Morrison asked:

"Have not your employers imported cheap foreign labor to compete with you?" But he wished he had not put the question when the man promptly answered: "Yes, in some cases; but you propose to give employment to all the cheap foreign laborers in their own countries by making it impossible for us to compete with them in this country."

Mr. Bates' slur about Ireland's trade, &c., is perhaps best replied to by quoting the *Chicago Herald* of a recent date, a free-trade organ:

"The barbarous cruelty with which English administration in Ireland has kept in poverty a country which *English law robbed of her manufactures* has at last borne political fruit. Unable to find labor in Ireland, hun-

dreds of thousands of her people have crossed into the neighboring islands in search of bread."

Even the *Chicago Times* says a nation is better off when its raw material is worked up by its own people, &c., &c., which is denied to the Irishmen in Ireland.

"Does the British miller himself ask any protection against his American competitor?" asks Mr. Bates. I reply yes, sir. An earnest effort is, at this time, and for some time past, being made to tax American flour to protect British millers. Mr. Bates should read the papers more thoroughly. This tariff question requires study, reflection and something more than wild assertions, in reckless and flippant phrases. I commend to Mr. Bates Pope's verse, slightly varied:

"A little learning is a dangerous thing,
Drink deep or taste not of the tariff spring,
Here shallow draughts intoxicate the brain,
But drinking largely sobers us again."

Thanking you, Mr. Editor, for the extreme courtesy you have extended to me in the large amount of space already occupied, I will close by quoting from the *Milling World* of Buffalo, of March 29th, which in criticizing Mr. Bates' assertion that "We have a tariff of more remarkable character than that which any other nation has at the present time."

On this the *Milling World* cuttingly comments and passes Mr. Bates through the rollers as Artemas Ward would say, thusly:

"We know it is 'remarkable' because it makes our laborers able to demand a reduction of 20 per cent. in hours of labor, and an increase of from 10 to 20 per cent. in salary from their employers, while in free trade England laborers are starving and rioting for work at any rate of wages."

Therein are the religious aspects of the American protective tariff.

THE centrifugal reel is coming into use in many mills as a universal bolting machine. The idea has friends enough and it is now strong enough to stand for itself and certify as to its own character. I would not antagonize the centrifugal reel idea, or its use as a universal bolting device on account of its past history, because I think I understand that such reels are being used under entirely different conditions to-day from what they were in the past, and while I would not reject any machine because some one else rejected it, on the other hand I would not accept without questioning and without thought a machine or a system, because a certain respectable number of people accepted it. There is a reason for everything. If the complete centrifugal reel idea is a good one, there are reasons for it, and it can not suffer if it be thoughtfully considered. For this reason it will be in order in the next few weeks to take a small centrifugal reel mill, go through it from beginning to end, consider the principles involved and see if it is desirable to use a centrifugal reel for all purposes of bolting.—*Corr. Northwestern Miller*.

DR. COWAN'S "Science of a New Life" should be read by every man twenty-one year, of age. It is a scientific work in plain language that any one can understand, and is not an advertisement for any physician or medicine, and must not be confounded with another work bearing a similar name, published by a Buffalo medical institution. See descriptive advertisement on another page.

UNITED STATES MILLER.

E. HARRISON CAWKER, EDITOR.

PUBLISHED MONTHLY.

OFFICE, NO. 124 GRAND AVENUE, MILWAUKEE.

SUBSCRIPTION PRICE—PER YEAR, IN ADVANCE.

To American subscribers, postage prepaid..... \$1.00
To Canadian subscribers, postage prepaid..... 1.00
Foreign subscriptions..... 1.25

All Drafts and Post-Office Money Orders must be made payable to E. Harrison Cawker.

Bills for advertising will be sent monthly, unless otherwise agreed upon.

For estimates for advertising, address the UNITED STATES MILLER.

[Entered at the Post Office at Milwaukee, Wis., as second-class matter.]

MILWAUKEE, APRIL, 1886.

We respectfully request our readers when they write to persons or firms advertising in this paper, to mention that their advertisement was seen in the UNITED STATES MILLER. • You will thereby oblige not only this paper, but the advertisers.

MILWAUKEE AMUSEMENTS.

ACADEMY OF MUSIC—Performances every evening, Wednesday, Saturday and Sunday matinees.

GRAND OPERA HOUSE.—Performances every evening, and Wednesday, Saturday and Sunday matinees.

DIME MUSEUM—Performances every hour from 1 P. M. to 10 P. M. every day.

SLANSBY'S VARIETY THEATER—Performances every evening, and Thursday and Sunday matinees.

MILLERS' NATIONAL ASSOCIATION.

OFFICERS:

President—JOHN A. CHRISTIAN, Minneapolis, Minn.
Secretary and Treasurer—S. H. SEAMANS, Milwaukee, Wis.

Vice-Presidents—C. H. Seybt, Highland, Ill.; Homer Baldwin, Youngstown, Ohio.

Acting Executive Committee—John A. Christian, Minneapolis, Minn.; S. H. Seamans, Milwaukee, Wis.; Alex. H. Smith, St. Louis, Mo.; J. A. Hinds, Rochester, N. Y.; C. H. Seybt, Highland, Ill.

OFFICERS OF THE STATE ASSOCIATIONS.

MINNESOTA—W. P. Brown, Red Wing, President; David Ronson, Stillwater, and Geo. A. Pillsbury, Minneapolis, Vice-Presidents; Frank Pettit, Minneapolis, Secretary; W. F. Cahill, Minneapolis, Treas.

IOWA—J. J. Snouffer, Cedar Rapids, President; D. B. Knight, 0112, Vice-President; J. S. Lord, Ogden, Secretary and Treasurer.

KANSAS—Robert Atkinson, Ottawa, President; O. W. Baldwin, Ottawa, Secretary and Treasurer.

MISSOURI—J. F. Lawton, Carrollton, President; Frank Hill, Carthage, and G. Sessinghaus, St. Louis, Vice-Presidents; G. J. Plant, St. Louis, Treasurer; D. B. Kirk, St. Louis, Secretary.

KENTUCKY—Chas. T. Ballard, President; W. C. Smith, Louisville, W. N. Grubbs, Henderson, W. S. Giltner, Eminence, and J. N. Myers, Frankfort, Vice-Presidents; W. H. Wherrit, Lancaster, Secretary and Treasurer.

ILLINOIS—D. R. Sparks, Alton, President; C. H. Seybt, Highland, Secretary and Treasurer.

INDIANA—Jos. F. Gent, Columbus, President; B. Jenkins, La Fayette, and J. R. Callender, Vincennes, Vice-Presidents.

WISCONSIN—Edward Sanderson, Milwaukee, President; J. L. Clement, Neenah, and Otto Puhlman, Plymouth, Vice-Presidents; S. H. Seamans, Milwaukee, Secretary and Treasurer.

MICHIGAN—J. D. Hayes, Detroit, President; W. D. Hibbard, Grand Rapids, Secretary and Treasurer.

OHIO—F. Schumacher, Akron, President; Robert Colton, Bellefontaine, Secretary and Treasurer.

MARYLAND—R. Tyson, Baltimore, President; J. Olney Norris, Baltimore, Secretary; W. H. Woodyear, Baltimore, Treasurer.

NEW YORK—J. A. Hines, Rochester, Secretary and Treasurer.

PENNSYLVANIA—B. F. Isenberg, Huntingdon, President; Landis Levan, Lancaster, Sec'y and Treas.

ACCORDING to the *Insurance Monitor*, an authority in insurance matters, 46 skating rinks were destroyed by fire in the fourteen months ending with February, 1886.

THE broom corn combination has "busted." The combination thought they saw a big speculation in broom corn, but it seems that they made a mistake in their calculation.

A WISCONSIN man has just been acquitted of arson in a justice court, because there is no law on the statute books of the State which prohibits a man from burning his own house.

ABOUT 300 flouring mills in the United States and Canada were destroyed by fire during 1885, and many others suffered more or less damage. The probable total loss to the owners is not far from \$3,000,000.

THE Wisconsin State Miller's Association will meet at the Plankinton House, Milwaukee, at 2 P. M., April 13, for the election of officers and the general consideration of matter of importance which will be brought before it. All members, and those desiring to become members, will serve their interests by being present.

THE Chinese Consul in New York, on being interviewed recently, subsequent to the Chinese outrages on the Pacific slope, said: "There is a commerce of \$80,000,000 a year between the United States and China in danger, and if Chinamen are forced by the people of this country to leave the United States, Americans cannot expect to remain undisturbed in China."

THERE is difficulty in storing soft corn in large lots, as it easily moulds and becomes injurious to stock, and sometimes even poisonous. It is believed that many cases of sickness in cattle and hogs are due to feeding rotten or mouldy corn. A good grain drier should constitute part of the machinery of every grain warehouse, so that damp grain could be properly dried before storing. J. C. Bates, of Chicago, makes an excellent machine for drying grain.

WE are gratified to be able to say just as we are going to press, that all differences between the firm of Edw. P. Allis & Co., of Milwaukee, and their employes, have been amicably settled. The men generally will work for the same pay as heretofore, and ten hours per day. Common laborers will receive an advance of ten cents per day, and some other slight changes will be made. About 1,600 men are employed by the firm.

THE MILLER, London, has a strong article in its March number, urging the establishment of National Granaries, so that in case of war or short crops the world over, there would be a sufficient supply of breadstuffs to feed the people at reasonable prices. The British farmers have become greatly discouraged by the low price of wheat, and many of them have ceased to raise it. Thousands who have heretofore maintained that free trade was proper are now strongly advocating a tariff on wheat and flour, to encourage the British farmers and millers.

The *Miller* further argues that as there is such great distress among the laboring classes,

leading to rioting even, for lack of work, that now is the time to build the granaries, which would employ the labor of many thousands of men.

"STRIKING" and "BOYCOTTING" have become familiar terms in this country of late. Milwaukee has caught this mental disorder and quite a number of workmen are now "out on a strike." It was rumored that E. P. Allis & Co.'s employes were to go out April 12, but they have not done so yet. Their demand is for eight hours work with same pay they have been heretofore receiving for ten hours. Mr. Allis says that he cannot accept the terms asked, and if the employes persist in their demands, he will close the works. Employes in flour mill building establishments could not have selected a more inauspicious time to ask for increased wages, than the present.

ONE of the largest confederate mills in this country will be started up in New York city in April. It is nearly completed. In a letter from the proprietors, Messrs. Herrick, Kirk & Co., No. 81 New st., New York, bearing date March 29, they say:

"We are erecting here on the water-front, one of the largest and most complete confederate flour mills in the world—capacity 4,800 bbls. per day of 24 hours. It will be ready to turn over in less than ten days, and we expect to keep it humming after it starts. We shall be able to make a place for an immense quantity of flour besides, as we are fixing to trade with the buying world that trades at this port."

Western millers will do well to correspond with this firm.

PERSONAL.

THE UNITED STATES MILLER has been favored with calls during the month just past from the following gentlemen connected with the milling industry.

S. H. SEAMANS, Esq., Secretary of the M. N. A., Milwaukee.

B. S. EWING, representative of Chatfield & Woods, Cincinnati, Ohio.

B. S. POTTER, Esq., of the milling firm of Potter & Huntington, Barton, Wis.

GEO. HECKEL, Editor of the *Street Railway Gazette*, of Chicago, made us a pleasant call, recently.

C. M. Gilbert, General Manager of the Richmond Mfg. Co., of Lockport, N. Y., with headquarters at Minneapolis, made us a pleasant call, recently.

MASS CONVENTION OF THE MILLERS' NATIONAL ASSOCIATION.

Editor *United States Miller*:—By order of the executive committee, a mass meeting of all members of the Millers' National Association is called for Wednesday and Thursday, May 12 and 13, at the Grand Pacific hotel, Chicago; the meeting to be called to order at 10 o'clock each morning. The object of this meeting will be to have a general re-union of all members of the association, election of officers receiving of reports from committees and a general interchange of ideas among the members as to the present state of trade and association affairs. A series of interest-

ing papers upon various subjects pertaining to the milling trade will be read by persons well versed in the topics under discussion. The following persons have been invited to write upon the subjects mentioned:

The Export Flour Trade.....	C. H. Seybt
Bolting Silk.....	A. B. Kellogg
Repurifying Flour.....	Homer Baldwin
Centrifugals and Centrifugal Bolting.....	Geo. T. Smith
Milling Economics.....	C. M. Palmer
Round Reels and Flour Dressing.....	Jonathan Mills
Corn Meal Milling.....	David H. Ranck
Mutual Mill Insurance.....	Edw. Atkinson
New Milling Appliances.....	Albert Hoppin
Flour Brands.....	Alex. H. Smith
Oatmeal Milling.....	F. Schumacher

Among other important matters that will come up before the association will be the claims of R. L. Downton, who has begun suit in St. Louis and elsewhere for infringement of his patents on milling processes. At this meeting the reports of the attorneys now engaged in examining into the validity and value of these patents will be received, and it will be finally determined whether the association will fight them or compromise on the terms proposed by Mr. Downton's attorneys.

After the adjournment of the convention all members will be invited to participate in an

EXCURSION TO JACKSON MICH.,

For which the Geo. T. Smith Middlings Purifier Co. has with characteristic liberality tendered the free use of a train of sleeping cars for all the attendants of the convention. The train will leave the depot of the Michigan Central railroad about 9 o'clock on the evening of the 13th, after the adjournment of the convention, and will arrive at Jackson about 5 o'clock next morning, where the sleeping cars will remain, so as to allow the excursionists undisturbed sleep until breakfast time. During the entire day the Geo. T. Smith M. P. Co. expect us to be their guests, and will endeavor to make it both pleasant and profitable to us. Jackson contains the celebrated Purifier works, the Eldred mill, constructed on the new centrifugal system, paper mills, flouring mills, state penitentiary and other institutions of interest; while the city itself is well worth a visit. It contains many beautiful residences, public building, and the population is intelligent, stirring and hospitable. The train returning to Chicago will leave Jackson about 10 o'clock Friday evening, and arrive at Chicago Saturday morning at 7 o'clock, in time for all the morning trains going south, north or west.

It is sincerely hoped that every member of the association who can do so will be present at this meeting. The business to be considered and the programme provided for the entertainment of the members is of interest and importance to all, and if the association must again begin legal warfare, it is desired that every member whose interest are likely to be affected should be present, and aid in deciding upon the best course of procedure.

Secretary's office, Milwaukee Wis.,
April 3, 1886.

S. H. SEAMANS, Sec'y.

The immense quantity of peanuts grown in Africa, South America, and in our own Southern States, afford not only a pleasant article of food, but a very large source of oil production. The seed contains from 45 to 50 per

cent. of a nearly colorless, bland, fixed oil, not unlike olive oil, and used for similar purposes; it is a non-drying oil, which changes but little by exposure to the air, and remains fluid even at several degrees colder than 32 degrees Fah. A very great quantity of soap is manufactured from this kind of oil; indeed, some of the finest toilet soaps imported from France, are of this material.

A FRIEND of Tom Scott, the noted president of the Pennsylvania railroad, told me last night," says the Washington correspondent of the *Cleveland Leader*, "how Scott's choosing of railroading as a profession turned upon the flipping of a penny. He said: Tom Scott told me the story himself. He was the toll collector on the Pennsylvania canal at Columbia when the railroad authorities, hearing that he was a bright young man, offered him the position of station agent at Altoona. Scott was very popular, and when he told his friends they urged him to refuse it and stay on the canal. He resisted their importunities, but finally taking a big red copper in his fingers said: 'Boys, I will let the fates decide. Heads is Altoona, and tails is Columbia.' He then threw the copper into the air with a twist which sent it into a dozen somersaults, but it fell and the head was uppermost. The boys then said that one trial was not enough. It must be the best two out of three. Scott consented to this and threw twice more. His next throw was heads, and so the railroad won. Had the copper fallen on the other side who can tell what his future might have been?

BIG WHEAT FARMS.

This is really the spring of the year so far as Southern California is concerned, and the small grains are nearly all sown. Everything is done on a grand scale in California—farming included—and as for big farms many of the ranchmen here can discount the Dakota fellows ten to one. Mr. Dalrymple, who cultivates 30,000 acres of wheat every year in Dakota, on the line of the Northern Pacific Railroad, is considered quite a farmer; but there were 60,000 acres of wheat grown on one ranch last year, in the county of Los Angeles. The plowing, seeding and threshing are done on the broad gauge, and the whole business is done with an eye to saving men's help and putting the labor upon horses and machinery. A gang plow, turning six or eight narrow furrows, drawn by six or eight horses, turns the ground over, and in front of the plow is the seeding box containing the seed. The grain is sown ahead of the plows by the horse power, and covered to the depth of three or four inches. The ground is seldom harrowed after the plow. The wheat comes up mostly between the furrows, and looks very much as if it had been put in with a drill. It looks like a slovenly way of doing it to a northern man, but these men have found out by experience what is the best method for them. And when a man comes to harvest 60,000 acres of wheat, he does not hire men to cradle it as our fathers used to do, neither does he invoke the aid of that marvel of human skill and ingenuity, the reaper and binder—all the old and more modern processes are of no account. He takes a header and thresher combined, hitched twenty strong horses, four abreast, to the wonderful machine, and cuts and threshes his wheat at one and the same

time. The grain is dead ripe, of course, and stands uninjured in the field for a long time, there being neither rain nor wind to molest it. All the help that is needed is what is sufficient to handle the grain and take care of the teams. The straw is burned upon the ground so as to be got out of the way before the next seeding time. Barley often sows itself and produces two or three crops after one plowing and sowing. On these big wheat ranches there is no rotation of crops as in the older states, but it is wheat after wheat year in and year out. When the ground begins to fail to produce good crops it is given a rest, but no fertilizers are used except as the cattle, sheep and horses are allowed to run upon it. Extremes meet, and in cold Dakota and in semi-tropical California the methods of wheat-growing are very much alike. Dakota has the advantage, however, as far as the quality of the grain is concerned.—Correspondence *Evening Wisconsin* (Milwaukee), March 20.

We will send the U. S. Miller for one year and Ogilvie's Handy Book for \$1.00.

THE JUMPING FRENCHMAN.

A writer in the *Calais Times*, Maine, thus alludes to one of Maine's peculiar products: One of the greatest curiosities in the state of Maine is the "Jumping Frenchman," whom many people believe to be a myth. The jumping Frenchman is a sad reality, and he is a very familiar character in the lumbering districts of Maine. He is affected by a peculiar disease of the nerves, which robs him entirely of self-control, and leaves him completely at the mercy of practical jokers. He will start at any sudden noise or exclamation, and will obey any sudden command.

Once, on the Penobscot River, one of these peculiar persons was standing on a raft when a fellow standing near shouted "jump!" He did jump and was drowned. At another time, in a railway train, the conductor came along to punch a jumping Frenchman's ticket. "Hit him!" cried a joker, and the conductor was knocked flat by the nervous Frenchman. At another time one of the peculiar people went to a small post-office in Maine for a letter. Just as he was about to ask for his mail somebody cried out: "Grab him by the throat!" and the jumper reached through the window and seized the aged postmaster's windwipe with a vise-like grip and held on until he was pulled away. Another jumper, in a woods camp, was standing by a red-hot furnace when somebody shouted: "Grab the stove!" and grab it he did, leaving the skin of each hand on the red-hot pipe.

The jumpers are dangerous people to have around, as they will throw anything within reach at a man when so ordered, and some lumbermen will not employ them under any consideration. I remember that once, in a small hotel in the Aroostook, one of these people took an axe to a man on being commanded to "brain him," and that on the same night a lot of Boston drummers made one of them hop about so much by shouting "jump!" that he was glad to crawl out into the barn and go to sleep in the hay mow. Most of the jumpers inherit their misfortune, but some of them are made nervous by being held and tickled into spasms when children. A jumping Frenchman is a sad sight, but a great curiosity.

RIGHTS AND WRONGS OF THE LABOR WAR.

It is important to understand clearly just where the fundamental error arises in the dispute between organized labor and capital. The right of employees to combine cannot be for a moment questioned. It may be a question whether in so doing they consult their best interests; but the right of a man to employ his own labor in his own way is as fundamental as any other right to freedom, provided its exercise does not interfere with the free use of the same right by others; and that right is not the less real if it is exercised to the direct injury of him who owns it. If, therefore, the whole mass of men in any branch of trade agree to surrender their individuality, their judgment, their will and their conscience to an organization which acts through commissioned leaders, their right to do this must be conceded upon all grounds of law and natural liberty. It follows from this that whoever employs men who have thus delegated their individual rights of contract to the agents of a mass must be expected to treat with the agents of those men. To this extent, the claim of members of unions to be represented through their leaders and of their leaders to represent the members, individually or in mass, must be conceded.

But the right is equally positive on the part of the employer to select whom he pleases to do his work. If he prefers to employ men who are not bound by the acts of an organization, but who prefer to exercise their rights in an individual capacity, in that case natural justice, natural liberty and the laws of society confer upon him the right to exercise that choice; and the same guarantees confer the right to freedom of action upon the operative who chooses to act in his individual capacity.

When, therefore, labor organizations resort to threat, force or boycott for preventing the employer availing himself of free or unorganized labor, or to deter the employer from contracting with the employee in his individual capacity—in that case the union denies to others the freedom it demands for its own members, it interferes with the free exercise of natural rights which lie at the foundation of society, it becomes to all intents and purposes a gross tyranny alike over labor and capital. The unions may disown this attitude; but it is not the less its logical result; attempts to enforce their decrees very commonly end in violence as a last resort; and in fact enforcement by force is the silent threat on which they are coming more and more to depend and without which they are often powerless. The fact now stares us in the face that the whole railroad system of the country is threatened with suspension if the demands of the Knights of Labor upon one railroad system are not complied with; and that system is prevented from running its trains by the violent interference of these same Knights.

We are unwilling to believe that any large portion of the employees of this country will, upon mature reflection, continue to support these essentially unjust and revolutionary features of their system. They have too much respect for that individual liberty which is their birthright to become willingly parties to a tyranny which is subversive of society and must, if unchecked, involve all classes in ruin and suffering. After the consciousness of power arising from a rapid development of their organization will come a sense of responsibility and of desire to protect themselves from the consequences of their own excesses,

and they may then be hoped to discover the limits within which combination may be used to their own advantage and that of all other classes. For the time being, however, there is little promise of prudence in their action, and the only hope that such imprudences as may be committed will contribute toward a speedier and sounder settlement of this most vital question.—*N. Y. Com. Bulletin*, March 25.

WHAT THE PRESS SAYS ABOUT

Cawker's Flour Mill Directory for 1886.

"The American Flour Mill and Mill Furnishers' Directory" is a new work just published by E. Harrison Cawker, editor of the UNITED STATES MILLER, Milwaukee, Wisconsin. It is of inestimable value and should be in the hands of every person or firm engaged in the manufacture or sale of millstones, bolting cloths, roller mill machinery, water wheels, millwrights, and all engaged in the supply of articles appertaining to the milling trade of any kind whatsoever. It gives the names and post office addresses of 16,950 millers in the several states of the Union and 1,396 in Canada. Of the former 2,396 are in Pennsylvania. It also designates the larger millers who have a capital of \$10,000 and upwards invested in their business, whether the stone system or roller process, steam or water propelling power, in alphabetical order of states and post office in each state or province. Also a list of flour brokers and millwrights in the same order, showing the reader at a glance who they are and where to be found. The price of the book is \$10 per copy, and as a reference guide is worth double the amount to persons or firms engaged in the trade of millers' supplies.—*Harrisburg, Pa., Independent*, March 19, 1886.

CAWKER'S Flour Mill Directory for 1886 has been received at this office. In addition to a list of millers in the United States and Canada, it gives the names and addresses of millwrights throughout the country. This book will doubtless meet with the same ready demand found for former editions.—*The Millers' Review*, Philadelphia, for March.

WE predicted in a recent issue of this journal that Col. Cawker's American Flour Mill and Mill Furnishers' Directory for 1886 would be equal, if not superior to any former directory issued by him. We have just received a copy, which is complete in every particular, and just the book for any person wishing to do business with the milling industries.—*Millers' Gazette*, Toronto, Canada, for March 1886.

E. HARRISON CAWKER, publisher of the UNITED STATES MILLER, Milwaukee, Wis., has printed in very available shape a list of the flour mills in the United States and Canada, entitled "Cawker's American Flour Mill and Millfurnisher's Directory." This work is put out in a very neat and substantial form, and contains the name and post office address of flour mill owners in the United States and Canada, as its name implies. In addition to this, Mr. Cawker has farther enlarged the scope of the book by giving some idea of the capital invested in each mill, its system of milling, power and daily capacity. The list is therefore complete, and is the very best directory of the kind ever offered to the trade. It sells for

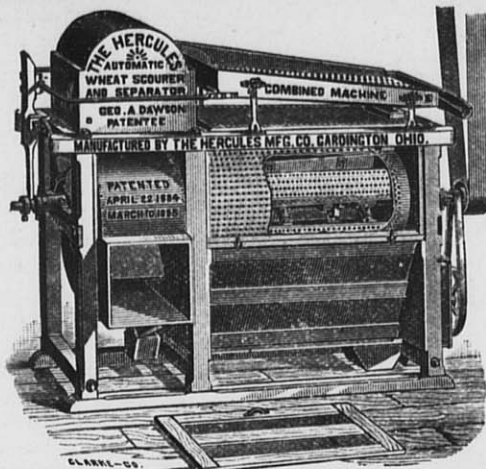
\$10 per copy, and as far as compilation, typography and neat and substantial binding is concerned, it is far ahead of all previous attempts in this line. Manufacturers desiring to reach the flour mill trade with circulars, etc., will find this directory a very valuable auxiliary.—*The Northwestern Miller*, Minneapolis, March 19, 1886.

THE labor of collecting accurate information for presenting a directory of the flour milling industry of the United States and Canada is not a small one. Previous efforts in this way by E. Harrison Cawker, editor of the United States Miller, Milwaukee, have been supplemented this year by a new volume, giving in detail by states the milling firms of the country—a valuable work for parties who have need for such lists. The total number of flour mills in the United States is shown to be 16,950, and in Canada 1,389, making a total of 18,289. The book also furnishes lists of millwrights and flour brokers. To a large extent it is shown whether steam or water power is used, and the capacity of mills in barrels of flour in 24 hours, and other features of interest. The directory is published in pocket-book form, those for pocket use by commercial travelers being printed on French folio paper, thin, light and strong, and those for office use on elegant book paper, strongly and handsomely bound. Price per copy, \$10. Copies can be obtained by addressing the publisher, E. Harrison Cawker, Milwaukee, Wis., or the publisher of this paper.—*Cincinnati Price Current*, March 11.

A TELEGRAPH DECISION OF INTEREST TO MILLERS AND OTHERS.

It begins to look as though somebody besides the Western Union Telegraph Co. and the Bell Telephone Co. have some rights in this country. For years every decision wherein the interests of the people and the monopolies were in conflict was invariably recorded in favor of the corporations. But a new era seems to have dawned, in which monopoly is destined to take a back seat. The recent decision of the Indiana Supreme Court, relative to the rights of the people to resist overcharges for telephone service, is a case in point, and the verdict of a jury in the United States Court at Detroit is another. Briefly stated the latter is as follows: J. Jenks & Co., the owners of a steam flouring mill at Sand Beach, have agents at Portland, Me. On December 20, 1884, their agents telegraphed to them that a contract to supply 1,000 barrels of flour at \$4.25 per barrel had been closed that day. Through some mistake on the part of the telegraph company the dispatch was not delivered, and the firm remained in ignorance of their agent's contract until January 6, 1885. In the meantime the price of wheat had advanced, and the firm had to fill the order at a loss. If the message had been promptly received, the firm could have bought the wheat and made the flour at a profit of \$617. Suit was brought for that amount, the company contesting it on the ground that the dispatch was not a repeated message, and that hence, under the printed rules on every blank, they were not responsible for any mistakes or delays that might occur in transmitting it. The jury heard the evidence and promptly brought in a verdict for the plaintiffs for the amount claimed.—*The Manufacturer*.

Do You Want Clean Wheat?



THE Hercules Automatic Wheat Scourer AND Separator

Warranted to improve the **COLOR** and **VALUE** of flour in any mill. Anti-Frictional, Light Running and the only **AUTOMATIC WHEAT SCOURER** ever invented. Adjusts itself while in motion to the volume of wheat fed to it and requires no attention but oiling. Awarded **GOLD MEDAL** and highest honors at the late **WORLD'S FAIR, NEW ORLEANS**. Machines sent on 60 days trial and satisfaction guaranteed or no pay. Write for Circulars, Testimonials and Samples of Cleaned Wheat and Scourings.

THE HERCULES MFG. CO., Cardington, Ohio.

It Has Increased Our Trade.

THE HERCULES MANUFACTURING CO., Cardington, Ohio.

Gentlemen:—We like the "Hercules" machine very much indeed. It has increased our trade, and we will buy another for our other mill in the Spring. It certainly is the best Scourer we know of.
Yours Respectfully,
SCHREURS BROS.

SCHREURS BROS.,
PROPRIETORS OF YOUNG AMERICA ROLLER MILLS,
Muscatine, Iowa, December 9th, 1885.

[Mention this Paper when you write.]

S. S. STOUT.

H. G. UNDERWOOD.

STOUT & UNDERWOOD,

(Formerly Examiners U. S. Patent Office.)

SOLICITORS OF

PATENTS

66 Wisconsin Street,
MILWAUKEE, WIS.

TELEPHONE NO. 502.

Green Bay, Winona & St. Paul

RAILROAD

IS THE **SHORTEST ROUTE FROM**
GREEN BAY

and all points in

EASTERN * WISCONSIN

—TO—

NEW LONDON,
STEVENS POINT,
GRAND RAPIDS,
WAUSAU,

MERRILL,

WINONA,

LA CROSSE,

CHIPPEWA FALLS,

STILLWATER,

HUDSON,

EAU CLAIRE.

—*ST. PAUL, MINNEAPOLIS,*—

and all points in

MINNESOTA, DAKOTA,

and all points on the

NORTHERN PACIFIC RAILROAD and ST. PAUL,
MINNEAPOLIS & MANITOBA RAILROAD.

Passengers from all points on the CHICAGO &
NORTHWESTERN R.Y. south of Green Bay and
Fort Howard, connect with the

G. B., W. & St. P. R. R.

—AT—

FORT HOWARD JUNCTION.

They will find it

THE SHORT LINE

to all the above points.

THE PASSENGER EQUIPMENT

of this Road embraces all the modern improvements
and conveniences that tend to make traveling by
rail safe and comfortable.

Be sure your tickets read via the

Green Bay, Winona & St. Paul Railroad.

S. W. CHAMPION, GAVIN CAMPBELL,

General Pass. Agent.

General Manager.

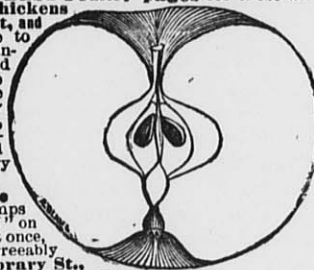
GREEN BAY, WIS.

TRIAL OFFER

ten trial subscribers become permanent readers, and use their influence to send more names. Experience having taught us this, we feel certain that it will pay us to make a **LIBERAL OFFER** to induce every one to try the paper. **3 MONTHS ON 10c.** To every reader of this who will send us 10 cts. in stamps or silver, we will send "THE FARM AND GARDEN" on trial for three months. Please accept this trial offer at once, if only to satisfy curiosity, and you will certainly be agreeably disappointed. **FARM AND GARDEN, 1001 Library St., Philadelphia, Pa.**

THE FARM AND GARDEN
Is a handsomely printed monthly paper, with ORIGINAL ILLUSTRATIONS, and is as homelike, sensible, and ACCURATE rural journal. INTERESTING CORRESPONDENCE

and valuable information from every State in the Union, but no nonsense or stolen ideas. It is an authority on FRUITS and VEGETABLES. Contains the BEST Poultry pages for those who raise chickens for profit, and is a sure to surprise, interest, and please you. Nine of every



61 POPULAR BALLADS ONLY 20 CTS.

I'm Just Going Down to the Gate, Handful of Earth. Wait 'till the Clouds Roll By. I'll Meet Her When the Sun Goes Down. A Knot of Blue and Gray. Mary's Gone With a Coon. Sweet Violets. Bridget Donaghue. Little Wife, Nellie. Bold McIntires. Only a Pansy Blossom. Nobody Knows What a Racket Was There. Where Is My Wandering Boy To-night? Paddy Duffy's Cart. Widow Nolan's Goat. Warrior Bold. We Sat by the River, You and I. You Will Miss Me When I'm Gone. Old, and Only in the Way. Oh, Dem Golden Slippers. Only to See Her Face Again. I've Only Been Down to the Club. Nelly Gray. You Get More Like Your Dad Every Day. My Pretty Red Rose. I'll Remember You Love, in My Prayers. Rosy's Sunday Out. When You've Got But Fifty Cents. Old Folks at Home. I'll Take You Home Again, Kathleen. Old-Fashioned Homestead. Pallet of Straw. Cradle's Empty. Baby's Gone. Never Take the Horseshoe from the Door. Blue Alsatian Mountains. Leaf of Ivy from my Angel Mother's Grave. Mary of the Wild Moor. Peek-a-Boo. Joe Hardy. Home Again. We Never Speak as we Pass By. Farmer's Boy. Lullaby. Boys, Keep Away from the Girls. Baby Mine. Grandmother's Old Arm Chair. High Water Pants. Over the Garden Wall. A Flower from my Angel Mother's Grave. I Left Ireland and Mother Because we Were Poor. Give an Honest Irish Lad a Chance. Not Before Pa. Spanish Cavalier. Mountain Song. In the Gloaming. Love of the Shamrock. Barney McCoy. Butcher Boy. Poor, But a Gentleman Still. Sweet Evelina. Forgive and Forget. All the Troubles You Have Met. This book is printed on paper same size as sheet music. Order a copy now. Address **AMERICAN PUBLISHING CO., 17 North Tenth St., Philadelphia, Penn'a.**

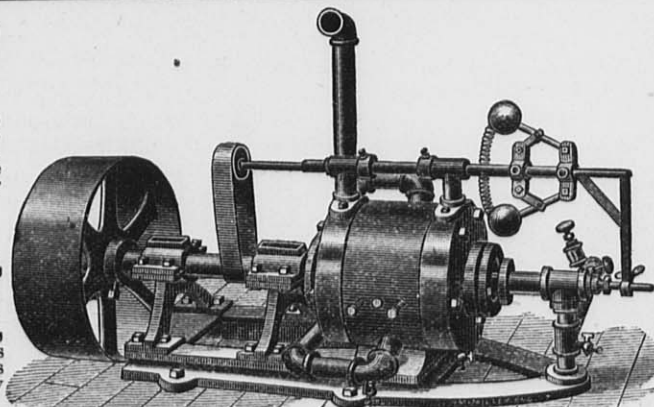
Did you hear us?

We told you over a year ago that our Engine was "on the market to stay." We now tell you it is the best Engine in the world, and is gaining favor every day and everywhere.

Highest Economy,
Closest Regulation,
Fines Automatic Cut-off,
Most Durable,

THE BEST in all respects and for all uses, and on prices we can double discount any engine maker in the U. S. Yes, it's a rotary, and we can prove all we claim.

If you want to know more about it send for Circulars and References.



WADE & WARDELL,
Cadillac, Wexford Co., Michigan.

[Please mention this paper.]

THE PHILOSOPHICAL TRAMP.

My clothing's ragged you declare?
Well, then it can't be spoiled.
My wardrobe is of linen bare?
My linen can't be soiled.
No credit have I, you believe?
That fact I don't forget;
But then, my friend, as you'll perceive
I cannot run in debt.

No dinner have I had to-day?
Well, no. Again you're right;
But I'll have no dyspepsia,
Or horrid dreams to-night.

No place to sleep? Well, I'm content
I've often walked the street;
But then you know I pay no rent
And have no bills to meet.

'Twill kill me soon to live this way?
Well, why should I repine?
You, too, will die, your frame decay,
And turn to dust like mine.

Should we in dust together dwell,
Though now you're dressed so fine,
A century hence no one could tell
Which were your bones, which mine.

The thought brings solace oft to me,
Though suffer here I must;
There shall be true equality
When we are in the dust.

(Boston Courier.)

NEWS.

DEAD.—V. Beal, miller, at Cobden, Ill.
DEAD.—J. Hoffman, miller at Elba, Minn.
E. Howe, miller of Waldoboro, Me., is dead.
BURNED.—J. W. Engel's mill at Industry, Pa.
DISSOLVED.—H. L. Willard & Co., Sterling, Ks.
SOLD OUT.—Guy Kimball, of Pt. Huron, Mich.
SOLD OUT.—W. J. Crawford, of Leesburg, Ind.
ASSIGNED.—Jas. Moore & Son, Davenport, Neb.
S. O. Westbrook, of Beebe, Ark., has sold his mill.
BURNED.—Geo. K. Witney's mill at Wrightsville, Wis.
SOLD OUT.—L. Clark & Co., millers at Westerville, Ohio.
DISSOLVED.—Lutz & Handley, millers at Lewisburg, W. Va.
CHANGED.—Moore & Floyd, Kennett, Mo., to Floyd & Shelton.
BURNED.—S. J. Stephenson & Bro's. mill and gin at Troupe, Tex.
BURNED.—The mill owned by H. B. C. Gentry, at Verbena, Va.
W. N. Eddy's mill at Winchester, Va., was damaged by fire. Insured.
BURNED.—W. A. Davis' grist mill at Bullock, Ga. Loss about \$3,500.
BURNED.—Isaac Bookers' flour mill at Cameron, W. Va. Loss \$6,000.
Hale Bros. of Lyons, Mich., are shipping considerable flour to Georgia.
C. Anderson, of Lanesboro, Minn., has gone out of the milling business.
BURNED.—Daniel Paule's grist mill in East Carmoilet, near St. Louis.
SOLD OUT.—W. C. Henderson, of Port Colbourne, Ont., has sold his mill.
J. H. Matthews, of J. H. Matthews & Son, millers at Fairfield, Ia., is dead.
The milling firm of McDaniel & Wright, Franklin, Ind., dissolved recently.
SOLD OUT.—Mill at Freeport, Mo., by Davenport & Sons, to J. S. Parish & Co.
P. G. Hoag is making extensive repairs and changes to his mill at Otsego, Mich.
The corn-mill owned by Swift & Ould, at Perryman, Md., has just been completed.
Carson & Lewis, Weatherford, Tex., will soon have a 125 bbl. flour mill in operation.
DEAD.—J. H. Matthews, of the milling firm of J. H. Matthews & Son, Fairfield, Ia.

BURNED.—Smith & Sons' saw and grist mill near Bright Star, Ark. No insurance.

Rhodes & Dean, the Kalamazoo engine builders, are getting out six engines for boats.

BURNED.—D. Cooper & Co's. flour mill at Rochester, Ind., partly burned recently. Insured.

Le Bar & Cornwell's mills (75 bbl. capacity) at Cadillac, Mich., are running full time.

Lewis Carman has sold his grist mill at Millbrook, Mich., to Otis Smith, late of Pennsylvania.

Stinnett, Rucker & Co., will start up their new 200 bbl. roller mill at Sherman, Tex., April 1.

BURNED.—Toboke & Alden's mill at Waymansville, Ind. Loss \$10,000. No insurance.

Theodore Mittendorf has gone into partnership with Otto F. Lutt, miller at Clay Centre, Ks.

The Albany Flouring Mill Co., at Albany, Tex. has purchased \$14,000 worth of flour mill machinery.

Moore and Dutcher will change their flouring mill at Saugatuck, Mich., from stone to roller process.

S. Bigler, of Painesville, O., (miller) has taken in a partner and the firm is now known as S. Bigler & Co.

BURNED.—At Bowmanville, Ont., March 22, William Stephens' flour and grist mill was destroyed by fire.

A roller flour mill will be built and a grindstone quarry opened the coming summer at Port Austin, Mich.

BURNED.—March 18th, John Kerstetter's mill at Potts Grove, Pa., was totally destroyed. No insurance.

Hannah, Lay & Co., 200 bbl. roller mill at Traverse City, Mich., has made and sold 18,000 bbls. of flour during the past 90 days.

The Mill Creek roller mill with a daily capacity of 125 bbls. flour and 40 bush. of corn has just been started at Mill Creek, Tenn.

About noon of March 26th the North Buffalo flour mills of Buffalo, N. Y., were destroyed by fire. Loss \$40,000. Insurance \$25,000.

Owing to the failure of the First National Bank, at Wahpeton, Dak. the Wahpeton Mill and Elev. Co's property has been levied upon.

S. H. Cockrell & Co., Dallas, Tex., have let the contract for a 250 bbl. roller mill. This will increase their capacity to 500 bbls. per day.

Revised estimates show Ferdinand Schumaker's loss by the burning of his mills at Akron, O., to be about \$500,000, with insurance of \$109,000.

Hugh McIntyre has purchased a half interest in the Morden, Mass. flour mill. The firm will hereafter be under the style of Ritchie & McIntyre.

J. F. Seiberling, of Akron, O., a wealthy miller, manufacturer and real estate owner, has been boycotted by the Trades and Labor Assembly of that place.

A large section of the dam of the Plymouth roller mills, owned by E. P. Bacon & Co., of Milwaukee, was swept away by a recent flood. Substantial repairs are being made.

BURNED.—At Hannibal Centre, N. Y., March 25, the flouring and saw mill of Charles Rogers & Son. The loss is from \$7,000 to \$8,000; no insurance. It is supposed that the sawdust took fire and smoldered until during the night.

Lenham & Co., who own eight elevators in Dakota on the line of the Northern Pacific R. R., made an assignment March 19. The amount of liabilities is supposed to be considerable as the firm have been doing a large business.

Gilbert & Jones, of Jameston, N. Y., proprietors of the Crown Roller mill have dissolved partnership, Charles H. Jones having purchased the interest of Albert Gilbert, Jr. The mill will receive many improvements and its capacity will be increased.

An attempt was made to burn the Eagle mills in Kansas City, April 7. The mills had been shut down for two weeks and as soon as the machinery was started fire broke out in three places on the second floor. It was found that the conveyors had been packed with cotton, saturated with turpentine and matches tied on the paddles, so that they would strike upon pieces of sandpaper placed at the proper distance to ignite them and start the fire. It must have been the work of some one familiar with the building and machinery and it was most fortunate that the fire was extinguished with little or no loss.

There are 27 potato starch factories in Aroostock, county, Me., and vicinity, costing from \$400 to \$10,000 each, with a working capacity of from 20,000 to 80,000 bushels of potatoes. The amount of starch made in the State last year was 9,548 tons from 2,340,000 bushels of potatoes.

According to the annual report of the Detroit, Mich., Board of Trade, the mills of that city manufactured during the year 1885, 255,000 bbls. of flour, consuming 1,145,040 bus. wheat. Receipts of flour for the year were 140,198 bbls. Shipments 157,899 bbls. Wheat receipts 8,731,495 and shipments 6,170,385 bush.

A grain buyer who has purchased at Portage la Prairie, Manitoba, during the fall and winter, estimates that about 300,000 bushels of wheat have been marketed from the Portage plains. He says that if a few loads of smutty wheat were taken out, the balance would average No 1 hard. There was no frozen grain to speak of.

The George T. Smith Purifier Company, of Jackson, use about 4,000,000 feet of whitewood lumber in the course of a year, or about 500 car loads. A short time ago they entered into negotiations with parties in the south for 3,000,000 feet of extra quality whitewood, but the purchase was not consummated because of prohibitive freight rates.

The mill of Taylor Bros., at Pontiac, Ill., was burned March 15. It is a complete loss; also several barns and dwellings surrounding it. The origin of the fire is unknown, but its progress was very rapid. Most of the employees had to jump from the windows, some from the third floor. No one was severely injured. Loss between \$50,000 and \$60,000; partially insured.

The Imbs flour-mill at Belleville, Ill., is shut down for repairs, and will remain closed for about two weeks. It has run steadily since July 1 last, but only twelve hours a day, as the wheat could not be secured to run full time. Some of the reports as to the growing crops of that section are slightly discouraging, but no more so than usual.

There is a long strip of country along the A. T. & S. Fe R. R. in Kansas, that is an open field for millers. Between Topeka and Newton are burr mills of antique pattern, with one exception, and several of the towns range from 800 to 6,000 inhabitants.

Meier, Mich., has raised a bonus of \$2,000 for a flour mill.

The mill at Hartford, Kas., will be remodeled in the Spring.

A large roller mill will be built at Chadron, Neb., in the Spring.

Ketcham Bros., Mt. Pleasant, Ill., are putting in the roller process at a cost of \$15,000.

H. H. Speare, of Chattahoochee, Fla., is preparing to build a steam mill at River Junction in that State.

S. M. Kefauver, operating a mill at Middletown, Ind., has been burned out. Loss \$9,500; partly insured.

J. E. Palmer's grist mill, at Wilton, Me., has been damaged by fire to the extent of \$7,000; small insurance.

DISSOLVED.—Seely & Mersman, millers, Troy, Ill., Seely continues.

DEAD.—J. Hoffman, Elba, Minn.

BURNED.—Newhart & Son's hominy mills at Terre Haute, Ind. Loss \$20,000. Insured.

BURNED.—The 100 bbl. mill of Stinnett, Rucker & Co., at Sherman, Tex. Insured.

Piper, Gibbs & Co., have sold their waterpower on Rock River, at Piperville, Wis., to the Ixonia Water League and they will remove the dam at once. This will reclaim hundreds of acres of land and improve the water power at Watertown. The Piperville dam was first built in 1844.

The Duluth Dock Company has been formed at Duluth, Minn., for the purpose of building a \$100,000 dock in that city. Work will begin at once, and it will probably be finished early in the season.

The largest linseed oil mill in the United States, in Toledo, O., was recently destroyed by fire, resulting from the explosion of a tank of naphtha, containing about 100 barrels used in the new process of refining linseed oil. The explosion caused a tremendous report throwing burning oil in all directions, demolishing the building and setting fire to adjacent buildings. Four men were injured but no one killed.

The Farmer Roller Mill Co. recently shipped eight sets of farmer rolls to F. Roberts, Smithfield, Mo.; ten sets to Wm. McDevitt, Seneca, Mo.; two sets to Bennett & Reese, West Plains, Mo.; seven sets to Adams W. Sandt, Easton, Pa.; single set to Seria Lumber Co., Chico, Cal.; and double sets to Moore Bros. Cincinnati, Ark., and A. C. Vorhis, Brockton, N. Y. The Company is furnishing two dynamos, capable of running 300 incandescent and ten arc lights, to Petoskey parties and is turning out a dynamo for F. W. Scott, of Hillsdale, which he will use in generating light for his grist mill, office and residence. The Vibrate and Luminoid Co., of Boston, has ordered a dynamo to test its new lamp.

James Jenks & Co., owners of a flour mill at Sand Beach, want \$2,000 damages from the Western Union Telegraph Company. Their agent sent them a telegram about a lot of 1,000 barrels of flour, contracted for \$4.25 per barrel; the telegram was not delivered until several days, and in the meantime wheat had risen in price, and instead of making \$1,000 profit as they claim, they would have done had the message been delivered at the proper time, they filled the contract at a loss. Hence this suit.

The Vallier & Spies Milling Co. at Marine, Ills., has been incorporated with capital stock of \$30,000.

BURNED.—The mill of Israel & Benj. Markely at Bennington, Kas. Loss \$20,000. Partly insured.

The mill furnishing firm of Latimer & Co., Philadelphia, Pa. are succeeded by Latimer & Perrine.

The organization of the F. Schumacher Milling Co., at Akron, O., progresses favorably. The Akron Milling Co. have signed the articles of agreement, turning in their mills at a valuation of \$370,000. F. Schumacher takes \$670,000 of the stock and the balance of \$460,000 is to be raised by subscription. Of this latter amount \$160,000 has already been subscribed, and from present outlook the balance will, in a short time, be taken. Under this state of affairs there is no doubt that Akron in the course of a year or so will have one of the largest milling plants in the world.

The Memphis Mill Co., of Memphis, Tenn., has been organized and incorporated, by L. H. Lanier, G. A. Dazey and W. T. Cartwright. The mill is now being built.

S. T. Comans, of the firm of S. T. & R. Comans, millers, at Fox Lake, Wis., dropped dead of heart disease, March 25th. The deceased was 70 years of age.

A. J. Childress, T. M. Kill and E. J. Lockhead, have organized and incorporated The Terrell Milling Co., at Terrell, Tex. Capital \$30,000.

A new 200 bbl. roller mill is to be built at Waco, Tex., by Wm. Cameron and others, which, including a large elevator, will cost about \$100,000.

Advices received at Washington, D. C., from the winter-wheat growing districts show that, even with favorable weather, the crop will reach only an average. About 30 per cent. of the acreage was sown late, from fear of the Hessian fly, and this portion has suffered some from the weather. The greatest falling off in acreage is in the states of Illinois, Kansas and Missouri. On the Pacific slope the outlook is more encouraging.

A mill is to be built at Renick, Mo., by The Renick Milling Co., incorporated. Capital \$50,000.

HOPEWELL TURBINE WATER WHEEL.

Mr. A. J. Hopewell (whose advertisement will be seen in another column), is the inventor and proprietor of that esteemed water wheel known as "The Hopewell Turbine." He was born in Powells Fort Valley, one of the larger recesses of the Massanutten range of Mountains, near Edinburg, Va., in the year 1842.

His parents were comparatively poor, and though at a very early age he manifested decided and remarkable talent for the various branches of mechanics, embracing hydraulics and hydrostatics and pneumatics, his circumstances in life prevented him from developing it as early as he would have desired. He literally earned his bread by the sweat of his brow in order that he might assist his parents to procure the necessities of life, and was almost constantly engaged at severe manual labor until he reached manhood. When he was about 20 years of age, he went into the business of watch and clock making

in which he showed great skill and fine workmanship, and it was not until he was 30 years of age that he was in a position which enabled him to direct his entire attention to his favorite pursuit, which culminated in the invention of the Hopewell turbine water wheel. He had his wheel subjected to various practical tests, and also with the use of a dynamometer, etc., until he was satisfied as to its superiority, and in 1879, he applied for and shortly after obtained letters patent, conscious of the merits of his invention, and that it could be made a source of profit. Without the aid of influential friends and with very limited means he confidently went to work to introduce his wheel. Naturally under such adverse circumstances, he met with the greatest trials and difficulties, but was not to be discouraged and now having met with even greater success than he ever hoped for, he is reaping the rich reward justly due to his confidence and energy. Mr. Hopewell at first had his wheel manufactured at Woodstock, near his home, but the demand for them soon became so great that the works at this place could not supply the demand and he then associated himself with E. G. Smyser, of York, Pa., one of the oldest and largest manufacturers of turbine wheels in the United States. At the time Mr. Hopewell entered into this arrangement with the above firm it had for years been engaged in manufacturing several of the most popular turbine wheels, but realizing at once the merits of his wheel discontinued the manufacture of other wheels.

WHAT REPORTS.

"The foreign news about wheat," says the *Chicago Tribune*, "contains a considerable amount of encouragement for those who believe our market is not going entirely to the dogs. The low prices offered in Europe appears to have very badly discouraged the seeding of wheat in British India. The area sown there to wheat this year is estimated by some to be about 1,800,000 acres less than that of the last crop. This gives room for anticipating a reduction in the yield to the extent of 17,000,000 bushels, though it is not certain that the quantity to be exported from that country will show so much of decadence. This is a matter which depends to a very great extent upon the prices that are offered for the property by English purchasers. It is also reported that the Russian ports, now opening with the termination of winter, are far from being loaded down with wheat. Advices came here April 3 to the effect that ships find it difficult to obtain wheat cargoes at those ports, and the inference is that Russia has very much less wheat to spare this season than she had a year ago. With this comes the news that during the last three months the stocks of breadstuffs have decreased about 30 per cent in Liverpool and 50 per cent. in London. As they were large at the opening of the year, those ports which are the principal ones of the United Kingdom, cannot be scant of supplies now, but they have less reason for depression, as the decrease has been accomplished in the face of large deliveries by home farmers for several weeks past. The taking of 400,000 bushels of our wheat yesterday for April shipment towards Europe is a significant fact in this connection. It shows that our market is on a better basis, as compared with foreign ones, than it has been at any time during the winter till a few days ago. It is possible to export our wheat without loss, though there are intimations that it is accomplished by the aid of a moderate re-

bate from the elevator charges for storage here. Perhaps a considerable rise in our price would be fatal to a continuance of the movement, and if so it would be much to be deplored. It is far better that prices be kept down while an appreciable percentage of our yet large visible supply is moved out of the country. That would then leave a chance for realizing more of the moderate quantities of wheat which still remain in the hands of our farmers—estimated a month ago by the Washington statistician to be only 30.1 per cent of the last crop, which it will be remembered, was a small one. If this estimate be accepted as approximately correct it must be concluded that a part of our own consumption between now and next harvest will have to be supplied from the stocks that are near enough to market to be visible. As the stocks of flour are not included in the aggregate of nearly 50,000,000 bushels that forms the officially stated visible supply, there need be no fear of starvation as a consequence of letting some of our wheat go abroad to feed the people who want it worse than we do."

NONSENSE.

"I knew a boy at school," said John Smith the other day, "named 'With Much Tribulation We Get to Heaven Jones.' We used call him 'Tribby,' I would rather be called Powhattan."

ELMIRA TEACHER—Who discovered America?

Johnnie—Christopher Columbus.

E. T.—That is right. Now how did he come to do it?

J.—He come by water.

"SHINE 'em uppa?" said an Italian boot-black to Pat, just landed.

"Phat's the charge?" asked Pat.

"Five cents."

"Begorra," said Pat, as he seated himself in the chair, "it's a foine country, Ameriky, where a poor Irishman can get his boots blacked by a gintleman wid goold rings in his ears."—*New York Sun*.

GOOD BECAUSE HE HAD TO BE.—"Robert, what did you say to the bad boy this morning when he taunted you for going to Sabbath-school?"

"Didn't say nothin'. I just went right on without sayin' a word back."

"That was right, my son, and I am glad to see you had manliness enough not to notice him."

"Yes, but you ken bet if he hadn't bin biger'n me I'd thumped blazes out'n him."

PRAYER AND POLITENESS.—The small boy who teaches theology to the historian was very bad indeed at the table the other day, so naughty in fact, that his sister said to him seriously: "You seem to get worse every day. Are you ever going to be any better?"

"To-morrow," asserted the small boy with engaging certainty; "I'm going to pray to God to-night when I go to bed to please make me good, and then I'll get up early in the morning and be good all day."

"You'd better pray now and begin right off. God can hear you now just as well as at bedtime."

"Oh, maybe he can hear me now, but I ain't going to pray now. 'Tain't polite to God to pray except at bedtime!"

UNITED STATES MILLER.

PUBLISHED MONTHLY.

OFFICE NO. 124 GRAND AVENUE, MILWAUKEE.
Subscription Price\$1 per year in advance.
Foreign Subscription.....\$1.25 per year in advance.

MILWAUKEE, APRIL, 1886.

ANNOUNCEMENT:

WM. DUNHAM, Editor of "The Miller," 69 Mark Lane, and HENRY F. GILLIG & Co., 449 Strand, London, England, are authorized to receive subscriptions for the UNITED STATES MILLER.

We send out monthly a large number of sample copies of the UNITED STATES MILLER to millers who are not subscribers. We wish them to consider the receipt of a sample copy as a cordial invitation to them to become regular subscribers. Send us One Dollar in money or stamps, and we will send THE UNITED STATES MILLER to you for one year. SEE COMBINATION OFFER ON OTHER PAGES.

The United States Consuls in various parts of the world who receive this paper, will please oblige the publishers and manufacturers advertising therein, by placing it in their offices, where it can be seen by those parties seeking such information as it may contain. We shall be highly gratified to receive communications for publication from Consuls or Consular Agents everywhere, and we believe that such letters will be read with interest, and will be highly appreciated.

TO ADVERTISERS.

Milwaukee, Wis., March 1, 1886,

To Those Interested in the Flouring Trade:

THE UNITED STATES MILLER is now in its tenth year, and is a thoroughly established and much valued trade paper. It has a large regular list of domestic and foreign subscribers. It is sent monthly to United States Consuls in foreign countries, to be filed in their offices for inspection by visitors. It is on file with the Secretaries of American and European Boards of Trade for inspection of members. Aside from the above, thousands of SAMPLE COPIES are sent out every month to flour mill owners who are not subscribers, for the purpose of inducing them to become regular subscribers, and for the benefit of those advertising in our columns. Every copy is mailed in a separate wrapper. Our editions have not been at any time since January, 1880, less than 5,100 COPIES each, and are frequently in excess of that. We honestly believe that the advertising columns of the UNITED STATES MILLER will bring you greater returns in proportion to the amount of money invested than any other milling paper published. Advertisers that have tried our paper for even a few months have invariably expressed themselves well satisfied with the results. Our advertising rates are reasonable. Send for estimates, stating space needed. The subscription price of the paper with premium is One Dollar per year. Sample copy sent free when requested. We respectfully invite you to favor us with your patronage. We shall be pleased to receive copies of your catalogues, and also trades items for publication free of charge. Trusting that we may soon be favored with your orders, we are,

Yours truly,

UNITED STATES MILLER.

E. HARRISON CAWKER, Publisher.

Affidavit Concerning Circulation.

STATE OF WISCONSIN, ss.
MILWAUKEE COUNTY, ss.

E. HARRISON CAWKER, editor and publisher of the UNITED STATES MILLER, a paper published in the interest of the FLOURING INDUSTRY, at No. 124 Grand Avenue, in the City of Milwaukee, and State of Wisconsin, being duly sworn, deposes and says that the circulation of said paper has at no time since January, 1880, been less than FIVE THOUSAND (5,000) copies per month; further, that it is his intention that it shall not in the future be less than FIVE THOUSAND copies each and every month.

E. HARRISON CAWKER,

Publisher.

Sworn to and Subscribed before me at Milwaukee, Wis., this 15th day of March A. D. 1886.

ISAAC S. CLARK,
Notary Public.

DR. THOMAS E. HEENAN, of Minnesota, the recently appointed United States Consul to Odessa, Russia, is now on his way to his post of duty.

THE N. Y. Commercial Bulletin says that the state of New York to-day has only 59 fire insurance companies, as compared with 105 in 1871, and meanwhile has chartered and lost 26 companies, organized and capitalized since January, 1871. This tells the whole story, as regards contradicting the absurd popular notion that fire underwriting is a profitable business *per se*.

Now is your time to send in your subscriptions for milling papers and other periodicals. Read our Club List on another page.

AND now the nimble speculator in options will "go in" more extensively than ever. Margin dealings were for a long time considered illegal, and so decided in state courts, but by a recent decision of the Supreme Court of the United States, in Higgins & Gilbert vs. McCrea, for margins due in transactions in mess pork and lard, the validity of speculative contracts was established. Popular before it was legalized, the option system is not likely to be put under the ban, now that it has been sanctioned by the highest court of the land.

THE TENTH YEAR FINISHED.

In May, 1876, the first number of the UNITED STATES MILLER, made its appearance, consequently this April number completes the first decade of its existence. We have in these ten years labored diligently to serve the interests of our patrons, both subscribers and advertisers, and we hope in the future to be able to render them still better service. We thank all who have aided us by their support in the past and hope for its continuance. With our May number a new volume commences, and we urge subscribers and advertisers to send us their orders before May 1.

We will send the U. S. Miller for one year and Ogilvie's Handy Book for \$1.00.

THE broom corn combination has "busted." The combination thought they saw a big speculation in broom corn, but it seems that they made a mistake in their calculation.

THE DOWNTON PATENT INFRINGEMENT CASE.

The executive committee of the Millers' National Association met in Chicago, April 3, to consider the important matter of the Downton patent, and also to arrange a suitable programme for the National Convention which will be held at the Grand Pacific Hotel, May 12 and 13. The committee were met by Mr. Downton and his attorneys, Messrs. Parkinson & Parkinson, of Cincinnati, O. A proposition was made for settlement with all members of the association in good standing (dues paid), and are straight on the association books when the proposition is accepted. This proposition is being held under advisement by the committee and a report will be made to the general convention May 12.

The Cleveland Milling Company, of Cleveland, O., have already compromised with the

patentee. The Anchor Milling Company, of St. Louis, Mo., has been sued, and as they are not members of the association, and having been sued, cannot under the rules become members, they will either have to defend themselves or settle on the best terms they can make.

Members of the committee do not hesitate to say that so far as they have investigated up to the present time, the case has an ugly look for millers. After a final report is made May 12, the members of the association will decide which is advisable to do—settle or fight. If the association can settle so as to protect all of its members cheaper than they can contest Downton's claims, they will probably do so. This threatened danger to the millers will doubtless cause a very large attendance at the meeting May 12. We earnestly advise millers not to rest in fancied security until the blow is struck, but to unite with the thoughtful millowners of the National Association, who have already served the interests of the entire milling industry of this country so faithfully and so well. This infringement must not be confounded with Downton's so-called "germ patent." This includes not only process, but mechanical devices and manufacturers of infringing machinery, and users of such machinery are alike liable in case the patent is sustained.

A REMARKABLE HISTORY.

Guizot is the Macaulay of the History of France. His narrative is full of emotion like a quick stream; his characters rise before us as in the flesh; they are men and women, not historic lay figures. It is as charming as any romance. It is a work to read and re-read. The new edition just published is worthy of the work. Though reduced in price from \$36.00 to \$6.00 the 427 illustrations are all there, superb in quality; the type is large; the binding is thoroughly excellent and tasteful. Every word of the publisher's description in the advertisement elsewhere is worth reading—the work ought to be owned in every home. We have made an arrangement with the publisher by which we are able to offer this work, Guizot's History of France, 8 vols., large 12mo., 427 fine illustrations, as described in the publisher's advertisement elsewhere, regular price \$6 00, in combination with THE UNITED STATES MILLER on the following remarkably attractive terms, namely:

For \$6.25, we will send one copy of this paper one year, and deliver a set of Guizot's History of France, as described, at our office or express office in Milwaukee, without further charge.

For \$11.50, we will send two copies of this paper one year, and deliver two sets of the work described, at our office or express office in Milwaukee, without further charge.

For \$16.00, we will send three copies of this paper one year, and deliver three copies of the work described, at our office or express office in Milwaukee, without further charge.

Our arrangements with the publisher enable us to make these exceedingly liberal offers for 30 days only—the time expires May 20, 1886. A prompt call at our office to examine the work is worth your while—that will cost nothing; a few hours' or a few moments' talk with your neighbors will enable you to secure it on easy terms.

ITEMS FROM BEYOND THE SEAS.

THE roller mill erected last year at the Cape of Good Hope, Africa, by an English firm, has met with such success that its capacity is to be greatly increased.

MESSRS. Meek Bros., of Oamaru, New Zealand, have ordered the construction of a large roller mill at that place.

A MILLING exhibition will be opened at Milan, Italy, April, 1887, and close in June.

IRISH MILLING.—Mr. B. J. Williams, the well-known baker of Edenderry, Ireland, writes us in reference to "bolting cloths," that the first was worked in Ireland by the "Neale" family about the year 1800, at Coolrain Mill, Queen's County; and the first silk dressing machine was erected by Mr. Alfred Haughton, of Ardreich Mills, Athy; and among the foremost millers were and are Messrs. Ebenezer Shackleton & Sons, of Moone Mills, Athy. They were also among the first in Ireland to put up roller mill machinery, and our correspondent adds that Mr. Shackleton's (sen.) maxim was, "get rid of a bad grain of wheat, even if it takes nineteen good ones along with it."—*The Miller*, London.

THERE is considerable talk among British millers, bakers and manufacturers of milling machinery, of holding another milling exhibition in 1887.

SAPPORO, Japan, now boasts of another American roller mill, built by the Jno. T. Noye Manufacturing Co., of Buffalo, N. Y. The mill has a capacity of about 75 barrels per day.

ON the first of March a bill was presented in the French Chamber of Deputies to abolish the assize of bread, as decreed by the law of 1791. This law allowed the mayors of towns and communes to arbitrarily fix the price at which bread should be sold, regardless of cost of flour to the bakers. It is needless to say that such a law, especially at election times, proved a lever of great power for a corrupt candidate for office. Only as far back as 1884 a mayor seeking re-election, was not ashamed to say to the voters of his district, "To vote for me is to vote for cheap bread; to vote for my opponent is to vote for dear bread." No time should be lost in repealing such a law.

PROSPECTS look bad for the Panama canal. Finding it impossible to raise more money in France, Engineer De Lesseps has succeeded in inducing a number of capitalists from other countries to go with him and examine the work already done, with the expectation that they will interest themselves financially in the project. There have been expended on the canal already \$153,000,000. The most difficult part of the work is yet to be done. It looks now as if the enterprise was bound to be a failure, and that the millions expended are hopelessly sunk in the mud of the Isthmus of Panama.

THE Swedish Parliament have rejected a proposal to put an import tax on grain.

THE French Government has decided to furnish its navy with bread and biscuit made from French grain only.

NINE hundred and forty-five grain laden steamers sailed from Odessa, South Russia, for various European ports during the year 1885.

AN International Bakers' Exposition is to be held next summer in Amsterdam, Holland.

RUSSIAN MILLING.—It is said the Russian mills have heretofore worked principally for home consumption and taken one-third of the grain in toll. The recent establishment of a large number of better mills is already affecting the trade and improving its methods. South and Central Russia have some large and well-equipped steam mills, yearly increasing, that extensively use machinery from Austria. The great centres of traffic like Odessa, Sebastopol, Moscow, and many others, have very good new mills; but the highest Hungarian grades, Nos. 0 to 5, are not made, the main manufacture being for the macaroni trade of South Russia and Italy, that requires highest grades of wheat. The average yearly output, from 1857 to 1880, was 62,700,000 lbs. A large part of the breaks and bran is exported to North Germany. Of Russia's total exports of flour, 112,500 barrels, the largest amount was sent to Sweden and Norway, Turkey and England; smaller amounts went to Austria, the Netherlands, Prussia, France, Italy and various other countries.—*Northern Miller*, Glasgow

THE TELEPHONE WAR BEGUN.

On the 23d day of March, Dist.-Att'y Kumlér, of Cincinnati, filed in the United States Court in Columbus, O., the government papers to test the validity of the Bell telephone patents, the defendants named in the petition being the American Bell Telephone Company, a corporation under the laws of Massachusetts; the Central Union Company, under the laws of Illinois; the Erie Telephone and Telegraph Company, under the laws of Massachusetts; the Central District Printing Telegraph Company, under the laws of Pennsylvania; the Cleveland Telephone Company, the City and Suburban Telegraph Company, the Union Telephone Company and the Buckeye Telephone Company, under the laws of Ohio, and Alexander Graham Bell. The attorneys for the government named in the petition are Solicitor-General Goode, Dist.-Att'y Kumlér, Allen G. Thurman, Grosvenor P. Lowry, Hunton & Chandler and Chase Whitman of special counsel. Process was issued directing appearance by May 1, and requiring that the answer be filed on or before June 1. The petition with accompanying exhibits makes about seventy-five pages of pamphlet printed matter. The points were made public in the press some days ago from a copy obtained surreptitiously. One of the attorneys states that the abstract contains the substance of all the allegations made. Taylor & Taylor have been retained as local counsel by the defendants. It is understood that the first question to be considered in connection with the case will be that of jurisdiction.

DUTIES ON WHEAT AND FLOUR.

During the present session of the Dominion Parliament, the millers of Eastern Canada have been agitating in favor of a change in the tariff respecting wheat and flour. What the millers ask from the Government is, that the duties on wheat and flour be equalized. The millers claim that the present duty of fifteen cents per bushel on wheat and fifty cents per barrel on flour is a discrimination against them, inasmuch as it favors the

importation of flour from the United States, against the importation of wheat for local grinding purposes. The millers find that they cannot manufacture the best brands of flour from Eastern Canadian wheat, and consequently they have been obliged to import hard wheat, heretofore principally from Minnesota. It is therefore but natural that the millers should desire a reduction in the duty on wheat, to enable them to import the hard wheat of the Northwestern States, and at the same time shut out flour, manufactured from such wheat. However, there are other ways of looking at this question, in which Manitoba and the Canadian Northwest is interested. When Canada found it necessary on account of the high import duties imposed by the United States on imports from this country, to adopt a protective tariff, that tariff was so arranged as to distribute its benefits, or burdens, as evenly as possible to all parts of the Dominion. On account of the geographical position of Manitoba, which compelled her to import largely from the United States, and from the fact that her exports have up to the last year been very small in comparison with her imports, it has been manifest to all that the protective tariff weighed far more heavily upon this province than on any other part of the Dominion, while in return little or no benefit was received from it. Now, however, we have commenced to export agricultural products to a considerable extent, and wheat being the principal crop, stands at the head of the list of exports. We are in a position from henceforth to supply Eastern Canadian millers with all the hard wheat which they may require, and our farmers have a right to demand that such requirements be supplied from the granaries of this province, in return for the tax which they pay on agricultural implements and manufactured goods generally, for the benefit of Eastern manufacturers. Even were the people of Eastern Canada compelled to purchase the greater portion of their wheat at an extra cost of a few cents per bushel from Manitoba, the balance would still be against this province. But it does not follow that any extra price will have to be paid by the imposition of duties on wheat, for where such a large surplus is produced, prices must be ruled by foreign importing markets. Eastern millers will be able to purchase their supply of hard wheat in Manitoba just as cheaply as if no duties were imposed on importations from the United States, while at the same time they will be helping to provide a market for a portion of the surplus product of the country.—*The Commercial*, Winnipeg, Man.

ANECDOTE OF PHIL. ARMOUR.—Philip D. Armour is a very generous man. A clergyman in whom he had confidence one day asked him for \$30 to relieve a poor woman whose new-born baby was lying naked in her one room, where there was neither fire nor food. The money was at once handed to the parson, who afterwards returned it with a note saying that he had "discovered that the woman was of ill repute and the child the result of sin." Mr. Armour at once sent word to Mrs. Armour, who gave the starving mother and child ample assistance, while her husband, stamping with rage, shouted to his clerk: "If that d—d scoundrel comes in here again throw him out!"

WATER, WATER EVERYWHERE.

Maud Muller's brother Ben one day
Grew dry as dust while raking hay.

Down on the ground his rake he threw
And said, "By jingo, I wish I knew."

He walked "four mild" that afternoon
And paused before a closed saloon.

And then, as no one noticed him,
With stealthy tread he entered in.

He said, with sundry dreadful winks,
"I see you sell but 'temperance drinks.'"

"Yes," said the man behind the bar,
Sayed Ben, "A little cold wa-tar."

And then, to make it tart and thin,
He squeezed a little lemon in.

An then, to make it rather sweet,
He stirred some sugar in the treat.

And then, to make it strong and tough,
He poured in whiskey, quantum suff.

He tossed it down, he said with glee,
"Cold water is the drink for me."

—Robert J. Burdette.

MILLING NOTES—PRACTICAL AND THEORETICAL.

By GEORGE MILLER.

In my last notes I asserted that the chemical characteristics of wheat are widely various both in quality and quantity of the insoluble albuminoids they possess. But I suppose I must refrain from using these jaw-breaking terms, or I may bring the classical thunder of my worthy friend the technical baker down upon me; nor must I use the very comprehensive etimologies of an old prizeman, to wit, nutritious nitrogen, virtuous gliadine, or the unique zymome, as this might lead my critics to imagine that I am fishing for the next money prize and gold metal of the National Association of British and Irish Millers. No; I would rather adhere to the appellation familiar to all of us, viz., gluten, then all will know that I mean the strength-giving element to our flour. We will consider the granule as an integer. It is not necessary for our purpose to dive deeper into the mysteries of its chemical composition. If we are cognizant of the land which gave it birth, which in general we are, we can, from physical inspection, form a good idea of its virtue without a dissection of its analytical parts. Our object is to preserve it whole, healthy, and strong, so that it may be able to perform the future functions our bakers have in store for it. I think if a miller requires a miniature bushel, a coffee mill, a wash bowl, and apothecaries weights, scales, etc. (as recommended by "An Old Prizeman,") to know the value of a sample of wheat, he is a novice in judgment of the article, and a very unfit subject to send into the market to buy. It is too late to judge wheat after it has been bought. We could not go back to the vender and tell him that the wheat did not stand the weight expected per bushel measure; or that upon microscopic examination the skin was found to be thicker than calculated upon, and that upon washing we found that it did not possess the quantity of gluten anticipated, therefore a corresponding abatement from the price must be allowed. This would make us look very small in the eyes of practical men, who, no doubt, would conclude that it was the puny twaddle of a mere milling theorist. It would be like the ancient justice of a Scottish border town (if I may use a metaphor), where,

it is said, the judges hanged the criminals first and heard the evidence of condemnation after.

But to revert to my context. I was saying that the life giving element in our wheat, which we call gluten, varies in strength. With all deference to the scientific researches of chemical experts, I maintain that moisture in the wheat is deleterious to the resulting flour, inasmuch, as it vastly shortens the expanding properties of the gluten, especially so in wheats which have never been seasoned into milling condition, which has been the case with all native wheats for a good many years. I greatly admired the plain comprehensible and logical definition of the frolics and delinquencies of the weak granules in the process of fermentation by a "Fellow of the Royal Microscopical Society," in the *Millers' Gazette* of the 1st inst. To my mind it was a lucid explanation of the manner in which gluten in wheat is impaired through moisture. The wheat being permeated with the water, the water granule is swelled a long way up the ladder of expansion before it comes into the hands of the miller, and the golden color, so characteristic of good gluten has either never been matured in it, or it has, through water absorbed, been previously commuted into the bluetints of water. This is strikingly borne out by a contrast between bread made from most of our native milled patents and that made from patents imported from abroad. Both may be equal, and invariably are equal in purity of complexion, but the latter is grounded on the tincture of gold, while the former is grounded on the tincture of silver. Hence the absorbing and expanding properties of the flour have been curtailed in the wheat, and their lustre irretrievably impaired through moisture received there. Truly characteristic of the weak flour, the granules of which Mr. Thoms avers "rushes through the stages of softening, peptonizing carbon dioxide fermentation into that of the lactic or acid fermentation, before the strong, tenacious granules of hard dry wheat get well started in the race." How many demonstrations of this have we seen in the bakehouse? How often have we seen the azotising agent bursting through the weak and inelastic bubbles of our sponges, making its escape therefrom without performing the intestine motions we intended them to do? How often have we seen the most careful nursing and scientific coaxing in the dough stages frustrated when our batch comes in contact with the high temperature of the oven? How often have we seen a promising bulky batch of bread drop down in the oven like a bird in the air, upon receiving the contents of the sportsman's fowling piece? Is it irrational to assume that all this is not more consistent with impaired elementary constituents, than with a deficiency in the quantity of them? I adhere to the former theory, and heartily concur in the opinion of Mr. Thoms that it is wrong to mill any wheats in combination before they are assimilated into one uniform condition, far less to mill those representative wheats from the Red River Valley in the Far West or those hard Indians from the arid plains of Jubblepore or Delhi, with humid English; and if a blend be absolutely necessary to produce the most serviceable loaf of bread (an assertion which is open to grave doubt), let it be done by the baker; he alone

is capable to blend to mutual advantage. It may be thought that I am wandering far away from my subject, but before I am done, it will be seen that all this is pertinent to the matter of yield.

To all practical men it would be apparent that the flour of the analysis I gave in my last paper, had been made from wheat possessing a very large percentage of gluten. Estimating from the quantity in the flour, we cannot assume that it contained less than 18 per cent. of it, a quantity to be found only in a few representative varieties, and grown upon virtuously favored spots of the earth's surface. So far as I am aware, only the hard Fife and Mediterranean, when grown on the virgin soils of Minnesota, Dakota and Ohio, in the United States of America, and one or two varieties of Hungarian, grown on the fertile plains of the River Theiss in Central Europe, possess a quantity anything approaching to this; yet some of our masters tell us, that we ought to make quite as good flour from a promiscuous mixture of the wheats of various countries, as any miller in Minneapolis or Buda Pesth can make, and when we can't do it, of course that is our fault, not that of the wheat. Nothing can be more absurd. They may just as well tell us that we ought to make a flour equal to Pillsbury's best or Washburn's Iron Duke out of a mixture of rice and locust beans. To further illustrate this, the wheats of our earth vary in this life-giving element from 7 to 20 per cent. and the richest that reaches our shores possess not more than 14 per cent. Consequently, those wheats which British and Irish millers have to work upon range from 7 to this number, while those that the millers of Minneapolis and Buda Pesth have to work upon, are ranging from 14 to 20 per cent. But some of our irrational physiologists tell us that this has nothing to do with the quality of our flour. It effects the percentages of grades only. There is a percentage of patent equal to any patent in the world in all wheats they say, and it is our duty, as millers, to separate this from the more inferior components of the endosperm. They allow that we cannot make the same quantity of patents as Pillsbury or Washburn, because they are not inherent in our wheat, but we ought to get a quantity in compatibility with the relative gluten our wheat contains, inferior to none. Most unphilosophical reasoning, which our next notes will show.—*Miller's Gazette*, London, March 1.

AUSTRIAN capitalists have erected a very large roller flouring mill at Teheran, Persia, and they are making excellent flour, which comes in strong competition with Russian flour.

STRUCK A BONANZA.—Smith—Brown, I'm glad to see you looking so well and prosperous. Big change since I saw you three months ago. Have you struck a bonanza?

Brown—Yes. You know I am one of the heirs of the Hyde estate in England, worth over three hundred millions of dollars.

Smith [excitedly]—Certainly. You don't mean to tell me that the thing is settled?

Brown—Yes, so far as I am concerned. I've dropped all claims and am now giving close attention to business. I should say I had struck a bonanza.



Down With High Prices!

30 TO 70 PER CENT. OFF
ONE THOUSAND DIFFERENT ARTICLES
Sold Direct to Consumers.



The "Little Detective," \$3.00
L. D. Postal gives Postage in CENTS.
Weights from 1/4 oz. to 25 lbs.



FAMILY SCALES, 240 lbs., \$5.
Platform Scales, \$11 to \$20.



Forges and Blacksmiths' Tools.
Farmers' Forge, \$10.
Forge and Kit of Tools, \$25.
Farmers can do odd jobs, saving time and money. Anvils, Vises, &c., &c.



WAGON SCALES.
Only manufacturers in America using nothing but the best of English Steel for bearings of all Scales:

2-Ton (8x12) \$40.

3-Ton (7x13) \$50.

4-Ton (8x14) \$60.

Beam Box and Brass Beam with each Scale 300 other varieties. Also, Trucks, Wheelbarrows, Corn Shellers, Feed Mills, Copy Presses, Money Drawers, Clothes Wringers and all Hardware Specialties.



SAFES OF ALL SIZES.
No. 4, weight 1,100 lbs., \$50.



SEWING MACHINES,
PRICES REDUCED

FROM \$65 TO \$18.

A beautiful Machine, perfectly finished, improvement on the Singer pattern, Black Walnut Furniture, containing a full set of latest improved Attachments. Warranted perfect. Save money.

Send for Circulars.

Chicago Scale Co.,

151 S. Jefferson St., Chicago, Ill.

GOODRICH PASSENGER STEAMERS

TWICE DAILY EACH WAY

—BETWEEN—

Milwaukee & Chicago.

Fare to Chicago \$2 less than by railroad night trains, and \$1 less than by day trains.

Chicago and Racine Line.

Leave.	Arrive.
Milwaukee.....7:30 a. m.	At Milwaukee 5:00 a. m.
Milwaukee.....7:00 p. m.	At Milwaukee 5:00 p. m.

Fare to Chicago Only \$2.

Round Trips, \$3.50, meals and berths included. Sure connections at Chicago with all M. trains for all points East, South and Southwest.

Sheboygan & Manitowoc Line.

Daily, except Mondays.

Leave.	Arrive.
Milwaukee.....7:00 a. m.	At Milwaukee 6:00 p. m.

Manistee & Ludington Line.

Daily, leave 7 p. m., except Saturdays.

Saginaw & Bay City Line, Daily except Saturdays.

Leave.	Arrive.
Milwaukee.....7:00 p. m.	At Milwaukee.....6:00 a. m.

Making close connections at Ludington with F & P. M. R. R. for Saginaw, Bay City, Detroit, and all points in Northern Michigan and all points East.

Pierport & Frankfort Line.

Leave Milwaukee daily at 7 p. m., except Saturday.

Kewaunee & Ahnapee Line.

Leave Milwaukee Tuesdays, Thursdays and Saturdays, at 7 a. m.

Menominee & Sturgeon Bay Line.

Tuesdays, Thursdays and Saturdays at 7 a. m.

Green Bay & Escanaba Line.

Leave Milwaukee Tuesdays, Thursdays and Saturdays at 7 a. m., touching at Oconto, Menominee, Sturgeon Bay, Depere, and making close connections with railroad at Escanaba for Nezaucsee, Ishpeming, Quinnesec, Norway, and all Lake Superior points.

G. HURSON, Secretary and Agent.

THE BATES CHAMPION

Rapid * Grain * Dryer!

FOR RAPIDITY, SATISFACTORY RESULTS AND THOROUGHNESS

UNEQUALED!

Get the Best; the Best is Cheapest. No Parch, Shrivels, Discoloration or other evidence of Artificial Drying.

The grain is dried at the rate of about 1,000 bushels per hour, the automatic arrangements and low temperature used insuring evenness and uniformity. The capacity, however, can be increased in proportion to power and space afforded, these latter being the only limit. In addition to drying evenly, the operations of the very dry air, peculiar to this machine, remove from the grain any slight odor from sweat or heat, and put it in condition to grade. The air used is a prepared air, and has all the varied degrees of low temperature necessary. Damp grain made as rules of inspection require, or as dry even, as old grain. Thus the BATES' DRYER is the most perfect as well as rapid dryer extant. It is beyond question The Champion Grain Dryer. Absolutely safe against fire.

New Corn can be made to grade immediately by the BATES' CHAMPION RAPID GRAIN DRYER! Corn of present crop, all over the country, is too damp to grade, and likely to be thus for months to come and can only be made to grade by artificial means. The BATES' DRYER is the only dryer that can dry the grain in large quantities at trifling cost, naturally, and not show parch, shrivel, or other evidence of artificial drying; the drying by this method being precisely that accomplished by a natural dry atmosphere, only that the machine accomplishes in a very brief space of time what would ordinarily require months. It is not necessary by this process to dry out any more moisture than will bring the grain up to the desired grade.

Dryers for grains of all kinds, including Brewers' Grains, cotton seed, flax, and grass seeds, glucose refuse. Also for Phosphates, Starch, Glue, Fruit, Lumber, Shingles, and Veneering, Hides, Leather, Hair, Moss, Wool, etc.

THE BATES' FERTILIZER DRYER accomplishes about three times the work accomplished by any of its competitors with about one-quarter of the steam. Besides grinding and drying the offal, this dryer delivers it cold and ready for immediate shipment.

The expense of drying by this method is reduced to smallest possible cost, which is below that of any other. Machines are compact. Experienced workmen will be sent to set them up and instruct as to operating. For further particulars address,

J. C. BATES,

189 La Salle St., Room 73 Calumet Bld'g, CHICAGO, ILL.

P. O. BOX 585.

OUR
BUCKETS
ARE NOT
COMMON (HEAP
ONES)
BUT ARE
FIRST CLASS
ELEVATOR
BUCKETS
IN EVERY
RESPECT

SALEM
BUCKETS
GENERAL AGENTS, CHICAGO
THORNBURG & CO.

THEY WERE
AWARDED
FIRST
PREMIUM
AT THE
MILLERS'
INTERNATIONAL
EXHIBITION
CINCINNATI, O
1880.

W. J. CLARK & CO. SALEM, OHIO

[Please mention this paper when you write to us.]

To Preserve Iron and Keep Boilers and Flues from Scaling, use

* H. P. GRAVES' BOILER PURGER. *

It has been practically demonstrated that a scale one-sixteenth of an inch thick on a Boiler will require twenty per cent. more fuel than a clean Boiler, while a scale one-fourth of an inch thick will require sixty per cent. more fuel. The scale is a non-conductor of heat, and its formation in Boilers is general through per cent. moisture, more especially in the lime and alkali districts, and enough attention has not been paid to keeping Boilers free from accumulations. The cost of fuel for steam purposes is an important item, and to economy in this direction should receive due consideration. I am manufacturing a BOILER PURGER which I claim is the best made: First.—That it will remove the scale from any Boiler, and, by its consumption, will keep it from forming. Second.—That it will not injure the Boiler, Valves or Cylinder, nor injure the water, nor injure the water for drinking purposes. It is easy to use, being in a liquid form, it can be put directly into the Boiler, through the Safety Valve, Whistle Valve, or by Force Pump, or into the Tank. Third.—That by its use, from fifteen to forty per cent. can be saved in the cost of fuel, besides the expense of putting in new flues every one or two years. Address, for prices, etc., to

H. P. GRAVES,

CHICAGO, 255 South Canal St.

MINNEAPOLIS, 327 Hennepin Ave.

MILWAUKEE, 343 Virginia St.

DETROIT, 36 Jefferson Ave.

[Mention this paper when you write to us.]

POWER OF A STATE TO FIX TELEPHONE RENTALS.

The Supreme Court of Indiana has unanimously decided that the act passed by the last legislature regulating the rentals of telephones in the State, and reducing the charge for services from \$5 to \$3 a month, is constitutional. State vs. Hackett, decided on the 20th inst. The court holds also that extra charges above \$3 a month made by telephone companies for alleged services are illegal. The view taken by the court is that the telephone has become a common carrier in the sense in which the telegraph is a common carrier; that all the instruments and appliances used by a telephone company in the prosecution of its business are, consequently, in legal contemplation, devoted to public use; and that it is now a well-settled legal proposition that property thus devoted to a public use becomes a legitimate subject of legislative regulation and control. This State regulation and control of property devoted to a public use, according to the court, is not the taking of property for a public purpose within the meaning of section 66, article I, of the constitution of the State, nor is such regulation and control an interference with the guaranteed rights of the citizen in private property. The Court holds that the obvious deduction from what has been said, as well as from the authorities cited, is that the power of a state legislature to prescribe the maximum charges which a telephone company may make for services rendered, facilities afforded or articles of property furnished for use in its business is complete. Regarding the right of the company to charge separately for the various articles used in the telephone service, claiming that the rental fixed by law did not apply to all of them, the court says: In a general sense the name "telephone" applies to any instrument which transmits sound beyond the limits of audibility, but, since the recent discovery, the name is technically and primarily restricted to an instrument or device which transmits sound by means of electricity and wires similar to telegraphic wires. * * * In view of the condition of things shown to have existed on April 12, 1885, we feel constrained to hold that the word "telephone," as used in the act of that date, was intended to designate an apparatus composed of all the usual and necessary instruments for the convenient and ready transmission and reception of telephone messages, and not to a single instrument only.—*Bradstreets*.

INDUSTRIAL DEPRESSIONS.

The first annual report of the Bureau of Labor has been submitted in manuscript by Commissioner Carroll D. Wright to the Secretary of the Interior and will be printed immediately. The report will cover about five hundred pages, containing facts, figures, and deductions concerning industrial depressions of a novel and interesting character.

Under the head, "The Industrial Depressions in the United States," Mr. Wright says:—

A million of men out of employment means a loss to the consumptive power of the country of at least \$1,000,000 per day, or a crippling of the trade of the country of over \$300,000,000 per year. The earnings of the people involved in the classes named above would

not be far from \$600 each per annum, representing total earnings of \$7,990,716,000. The wage earnings of the million that should be employed are crippled to the extent of over \$300,000,000 per annum, a sum sufficient to cause a reaction in business and a general curtailment of expense, from which result apprehension and timidity among all classes. It is curious to observe, however, that, while the severity of the depression causes a crippling to the extent of several hundred million dollars per year of the consuming power of the people, the volume of business transacted is not crippled comparatively to any such extent.

It is shown that just previous to the financial panics of 1857, 1873 and 1882 there was an immense increase in the mileage of railroads constructed in the United States. The results of this, in throwing men out of employment, have great bearing in producing depressions, through the crippling of consumptive powers.

The Commissioner continues as follows:—

BENEFITS OF MOTIVE POWER.

"The mechanical industries of the United States are carried on by steam and water power representing, in round numbers, 3,400,000 horse power, each horse power equalling the muscular labor of six men; that is to say, if men were employed to furnish the power to carry on the industries of this country it would require 21,000,000, and 21,000,000 men represent a population, according to the ratio of the census of 1880, of 105,000,000. The industries are now carried on by 4,000,000 persons, in round numbers, representing a population of 20,000,000 only. To do the work then accomplished by power and power machinery in our mechanical industries and upon our railroads would require men representing a population of 172,500,000 in addition to the present population of the country of 55,000,000, or a total population, with hand processes and with horse power, of 227,500,000, which population would be obliged to subsist on present means. In an economic view the cost to the country would be enormous. The present cost of operating the railroads of the country with steam power is, in round numbers, \$502,000,000 per annum, but to carry on the same amount of work with men and horses would cost the country \$11,308,500,000. These illustrations, of course, show the extreme straits to which a country would be brought if it undertook to perform its work in the old way. It is true that in those countries where machinery has been developed to the highest, the greatest number of work people are engaged, and that in those countries where machinery has been developed to little or no purpose, poverty reigns, ignorance is the prevailing condition, and civilization, consequently, far in the rear.

First train robber—"Is this the train we are waiting for?"

Second train robber—"No; this one only carries a couple of millions of gold to the San Francisco mint. It is the next train?"

First train robber—"What's on the next train?"

Second train robber—"A sleeping car porter with a whole week's earnings in his pocket."—*Philadelphia Call*.

It Matters Not WHERE YOU GO



THE
PALACE
PARLOR
AND
SLEEPING CAR
ROUTE

—IS THE—
United States Fast Mail Route and Short Line,

Constructed and Equipped in the most Perfect Manner, ensuring Safety, Comfort, Convenience and Speed. It traverses the most important portion of Wisconsin, reaching with its immediate connections, nearly every town and city in the State. Located on its main line are the cities of

MILWAUKEE, FOND DU LAC, OSHKOSH,
NEENAH, MENASHA,
STEVENS POINT, CHIPPEWA FALLS,
EAU CLAIRE,
NEW RICHMOND, ST. PAUL,
MINNEAPOLIS and ASHLAND.

Its trains start from Union Depots in CHICAGO, MILWAUKEE and ST. PAUL, and its equipment consists of NEW AND MAGNIFICENT PALACE SLEEPING AND PARLOR CARS,

ELEGANT DAY COACHES.

Superior Facilities make it the best route to and from the East, West, North or South.

BE SURE YOU START RIGHT,

by asking for tickets via this Line. For Maps, Circulars, Folders, or other information not obtainable at your local ticket office, apply to

F. N. FINNEY,

JAMES BARKER,

General Manager.

Gen. Pass. Agt.

Flint & Pere Marquette R. R.

LUDINGTON ROUTE.

Fast Freight & Passenger Line.

Freight Contracted on through Bills Lading to all points in

Michigan, Indiana, Ohio,
New York, Pennsylvania,
New England & Canada,

AT LOWEST RATES.

All freight insured across Lake Michigan. Passengers save \$2.75 to all points East.

Dock and Offices, No. 24 West Water St., one block from Union Depot.

L. C. WHITNEY,

Gen' Western Agent.

Detroit, Grand Haven & Milwaukee RAILWAY LINE.

The Shortest, Cheapest and Quickest Route

—BETWEEN THE—

WEST AND EAST

New York, Boston, and all points in Northern and Eastern Michigan.

COMMENCING MAY 17th,

the Palace Side-wheel Passenger Steamer "City of Milwaukee," will leave Milwaukee daily, Sundays included, at 12:00 noon and connect at Grand Haven with Limited Express Train which leaves at 6:00 P. M. Time, Milwaukee to New York, 32 hours.

Ticket Office, 99 Wisconsin Street,

—WHERE—

SLEEPING CAR BERTHS

can be secured. Dock, foot of West Water Street.

GEORGE B. REEVES, B. C. MEDDAUGH,

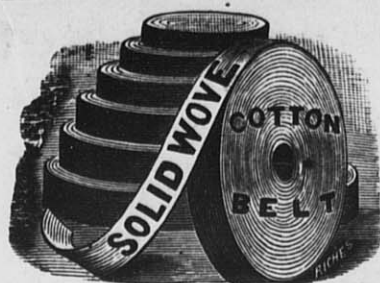
Traffic Manager,

West. Pass. Agt.

Chicago.

Milwaukee.

W. J. SPIGER, Gen'l Manager, Detroit, Mich.



MILL SUPPLIES

Leather Cotton Rubber } BELTING, BOLTING CLOTH,
Elevator Buckets, Bolts, Mill Irons, &c.

Prices Close and Quality the Best.

The Case Mfg. Co., Columbus, O.

[Please mention this paper when you write to us.]

MARVELLOUS PRICES. BOOKS FOR THE MILLION

Complete Novels and Other Works, by Famous Authors, Almost Given Away!

The following books are published in neat pamphlet form, many of them handsomely illustrated, and all are printed from good type upon good paper. They treat of a great variety of subjects, and we think no one can examine the list without finding therein many that he or she would like to possess. In cloth-bound form these books would cost \$1.00 each. Each book is complete in itself.

1. **The Widow Bedott Papers.** This is the book ever which your grandmothers laughed till they cried, and it is just as funny to-day as it ever was.

2. **Fancy Work for Home Adornment,** an entirely new work upon this subject, containing easy and practical instructions for making fancy baskets, wall pockets, brackets, needle work, embroidery, etc., etc., profusely and elegantly illustrated.

3. **Grimm's Fairy Stories for the Young.** The finest collection of fairy stories ever published. The children will be delighted with them.

4. **The Lady of the Lake.** By Sir Walter Scott. "The Lady of the Lake" is a romance in verse, and of all the works of Scott none is more beautiful than this.

5. **Manual of Etiquette for Ladies and Gentlemen,** a guide to politeness and good breeding, giving the rules of modern etiquette for all occasions.

6. **The Standard Letter Writer for Ladies and Gentlemen,** a complete guide to correspondence, giving plain directions for the composition of letters of every kind, with innumerable forms and examples.

7. **Winter Evening Recreations,** a large collection of Acting Charades, Tableaux, Games, Puzzles, etc., for social gatherings, private theatricals, and evenings at home, illustrated.

8. **Dialogues, Recitations and Readings,** a large and choice collection for school exhibitions and public and private entertainments.

9. **Parlor Magic and Chemical Experiments,** a book which tells how to perform hundreds of amusing tricks in magic and instructive experiments with simple agents.

10. **The Home Cook Book and Family Physician,** containing hundreds of excellent cooking recipes and hints to housekeepers, also telling how to cure all common ailments by simple home remedy.

11. **Manners and Customs in Far Away Lands,** a very interesting and instructive book of travels, describing the peculiar life, habits, manners and customs of the people of foreign countries; illustrated.

12. **Sixteen Complete Stories** by Popular Authors, embracing love, humorous and detective stories, stories of society life, of adventure, of railway life, etc., all very interesting.

13. **The Budget of Wit, Humor and Fun,** a large collection of the funny stories, sketches, anecdotes, poems and jokes that have been written for some years; illustrated.

14. **Useful Knowledge for the Million,** a handy book of useful information for all, upon many and various subjects; illustrated.

15. **Called Back.** A Novel, By Hugh Conway, author of "Dark Days," etc.

OUR UNEQUALLED OFFER: We will send any two of these books and our catalogue, containing prices of all leading papers and books for 6 cents in stamps. Any 8 books 20 cts.; the whole 40 for \$1.00. Send P. O. Note, Registered Letter, or Money Order, and address at once.

Franklin News Co., Philad'a, Pa.

FLOUR :: BROKERS

MILLERS DESIRING TO SELL FLOURS BY SAMPLE in car lots in the cities of Baltimore, Md., or Washington, D. C., should communicate with P. H. HILL, Millers' Agent, WASHINGTON, D. C., and for Philadelphia, Pa., communicate with HILL & SCHAAF, Millers' Agents and Grain Brokers, 219 North Broad St., PHILADELPHIA, PA. Highest references.

WM. GRIFFITHS. JAMES MARSHALL. GEO. E. DODGE.

GRIFFITHS, MARSHALL & CO., GRAIN :: COMMISSION MINNEAPOLIS AND DULUTH, MINN.

Orders for Choice Milling Wheat Given Special Attention.

BELLAS, PATTON & CO. Commission Merchants

3 INSURANCE EXCHANGE BLDG.,

218 La Salle St.,

CHICAGO.

GRAIN AND PROVISIONS.

Bought or sold for shipment, or carried on margins. Market Reports furnished to correspondents.

(ESTABLISHED 1855.)

J. O. MATHEWSON & CO.

GENERAL

COMMISSION

MERCHANTS,

AUGUSTA, - GEORGIA.

E. B. OWENS & CO.,

Provisions and Grain

BALTIMORE, MD.

Sell on Track West and to Arrive.
Fine Storage Cellars for Meat and Lard.
Handle all kinds of Grain.
Liberal Advances on Consignments.

REFER TO Western National Bank, Baltimore; Citizens' National Bank, Baltimore; Wm. Ryan & Sons, Dubuque, Iowa; Whitmore Bros., Quincy, Ill.; Bloomington Pork Packing Co., Bloomington, Ill.

L. EVERINGHAM & CO.,

(ESTABLISHED 1865.)

Commission Merchants

200-201 Royal Insurance Building, CHICAGO
Opposite New Board of Trade,

THE PURCHASE AND SALE OF
GRAIN AND PROVISIONS
On the Chicago Board of Trade.

For cash or future delivery, a specialty.

Special information, indicating course of markets, freely furnished upon request.

JUST OUT.

The only thoroughly practical work on Modern Milling in the English language designed for the use of operative millers only.

LOUIS H. GIBSON'S

Gradual Reduction Milling.

Contains 429 pages, many cuts, and diagrams for a 100-barrel mill, 70-barrel mill, a 50-barrel mill, and a 500-barrel mill. Full of interesting and valuable matter. Publisher's price \$3.00. Will be furnished with the United States Miller for \$3.50, postage prepaid. Send in your orders at once to

E. HARRISON CAWKER,

Publisher UNITED STATES MILLER, Milwaukee, Wis.

RED-DOG STOCK.

Millers have learned to believe that the red-dog bin is not a cess-pool nor a sewer; that there is material which is bad enough to keep out of that stock and that it is not desirable to send all kinds of rubbish therewith. Having gone thus far one may understand that it is possible to do something with the red-dog stock itself previous to its reduction. Do the best one may with it, he knows there is and will be a great deal of material which, when reduced will have the same effect on the flour as the reduction of a certain quantity of bran or other impure stock and its mixture with the red-dog flour. Take a sieve 10 or 12 feet long, set it up on hickory springs, vibrate it with an eccentric which has about an inch throw, and moves from 250 to 275 revolutions per minute, and you will have a very good red-dog purifier. Clothe its surface with two or three numbers of cloth, at the head about No. 4, an intermediate number, say of 2, and a tail number to be determined by the coarsest red-dog product in the mill. The latter cloth should be short, and such as will allow all of the red-dog to pass through it. In spite of its coarseness it will be found that there will be quite an amount of fine bran passing over the tail, and the stock which tails over the No. 2 can be aspirated in a way to make an absolutely accurate separation, which removes nothing but the feed or bran portion. There would not be great advantage in the use of an aspirator on stock which tails over the No. 4 and through the No. 2, as the separation by the aspirator would not be so exact as to admit of the sending of the removed material to the feed. However, if the red-dog be graded into low grades, it would be well to use an aspirator at this point, by which means one could take the stock drawn out by the aspirator and send it to the lower grade of red-dog.—*N. W. Miller.*

SOME USEFUL CIRCULARS.—The Boston Fire Underwriters' Union have issued several circulars recently which are full of suggestiveness to property-owners. One of these gives rules for the proper construction of window-shutters, another for the proper construction of fire-doors, so as to meet the requirements of the underwriters. Another important circular gives a brief standard schedule of what is needed to construct a slow-burning building. We print this last mentioned circular in full for the benefit of the many whom it may concern:

"SLOWLY COMBUSTIBLE BUILDINGS.—Mills, factories, stores, warehouses, and other buildings used for similar purposes, constructed in accordance with the following instructions, will be slowly combustible, and will receive the lowest ratings from the Boston Fire Underwriters' Union, viz.:

Walls.—To be of brick; of such thickness as the intended occupancy and buildings laws of the city may require; and not to exceed 60 feet in height from the sidewalk. The inner surface to be left plain, or plastered direct on the brickwork.

Cornices to be of brick.

Roof.—To be flat and of "mill construction" (i. e. made of heavy timbers and planking, without plastering or sheathing), and covered with gravel or metal. [No wooden Mansard or French roofs allowed, as they are regarded as "lumber yards up out of reach of water," furnishing so much additional material for

the fire to feed on, as well as greatly increasing the risk of fire from adjoining property.]

Girders and Columns.—To be made out of the best Southern pine timber. Iron girders and columns not allowed.

Floors.—To be made of "mill construction," consisting of heavy Southern pine timbers from five to ten feet apart, according to the burden they are expected to carry; covered with three-inch tongued and grooved plank; then two layers of asbestos or other heavy floor paper (in stores and warehouses an inch of lime mortar can be used instead); and then an inch flooring above. These floor timbers and floors to be left exposed beneath, without plastering of sheathing.

Elevators and Stairways.—To be placed in brick well-holes extending at least two feet above the roof and crowned with a skylight having an iron frame and thin glass protected with a wire screen. All openings on the various floors to be protected with standard tin clad fire doors.

Well-Holes for Light.—Not allowed in this class of buildings.

Shutters.—To be placed on all windows and other openings at the rear and sides of the building, when exposed by other property, or by another section of the same property cut off by division brick walls. To be of standard construction, and the fastenings so arranged that they can be opened from the outside.

Blind Attics.—And other concealed places that cannot be readily reached by firemen not allowed.

Boilers.—For heating, or power, to be placed in separate buildings, or fire-proof rooms, and provided with regular boiler chimneys.

Boston, March 16, 1886.

RECENT MILLING PATENTS.

The following list of Patents relating to milling interests, granted by the U. S. Patent Office during the past month, is specially reported by Stout & Underwood, Solicitors of Patents, 66 Wisconsin st., Milwaukee, Wis., who will send a copy of any patent named to any address for 50 cents:

Issue of March 2, 1886. No. 336,905—Grain drier, C. Ehlermann, St. Louis, Mo.; No. 336,916—Elevator bucket, H. B. Haigh, Brooklyn, N. Y.; No. 336,979—Grinding mill, J. B. Allfree, Cumberland, Md.; No. 337,051—Cockle and grain separator, J. B. Dishmaker, Carlton, Wis.; No. 337,160—Machine for pearling wheat and other grain, J. J. Hubbel, Benzonia, Mich.; No. 337,207—Middlings purifier, C. N. Smith, Dayton, O.; No. 337,234—Grain separator and cleaner, J. P. Bond, Warsaw, Ind.;—No. 337,284—Grain hulling and scouring machine, F. B. Rolle, Saxony, Germany.

Issue of March 9, 1886. No. 337,370—Middlings purifier, E. T. Butler, Philadelphia, Penn.; No. 337,388—Apparatus for transferring grain, etc., A. B. Fernald and D. T. Lawson, Jersey City, N. J.; No. 10,696—(reissue) Centrifugal reel, E. R. Draver, Stillwater, Minn.

Issue of March 16, 1886. No. 337,859, Grain register, L. Nottingham, Norfolk, Va.; No. 337,906—Automatic grain weighing apparatus, J. Wherry, Jr., Putnam, Ill.; No. 338,138—Apparatus for conveying parcels and grain by atmospheric pressure, C. E. Buell, Springfield, Mass.; No. 338,221—Grinding mill, W. R. Eynon, Cleveland, O.; No. 338,236—Grain cleaner, C. Tupper, Ridgeland, Ill.

Issue of March 23, 1886. No. 338,630—Cleaner for bolting reel cloths, G. S. Burnap, Marietta, Ga.; No. 338,638—Grain weighing and delivering apparatus, H. Hodges, Keota, Ia.; No. 338,639—Dust collector, N. W. Holt, Jackson, Mich.; No. 338,462—Centrifugal reel, H. E. Beerling, Jackson, Mich.; No. 338,416—Grinding mill, L. B. Joy, Bath, N. Y.; No. 338,673—Grain drier, M. L. Mowrer, Newark, N. J.

Issue of March 30, 1886. No. 338,765—Dust collector, P. M. Nelsson, Minneapolis, Minn.; No. 338,858—Flour bolting reel, W. C. Meyer, Vallejo, Cal.; No. 339,002—Grain weighing apparatus, F. C. M. Meyer, Prussia; No. 339,017—Magnetic separator, G. Scheffer, Germany; No. 339,023—Feeding device for middlings purifiers, G. F. Sheewood, and C. A. Smith Jackson, Mich.; No. 339,025—Claps for bolting cloths, G. T. Smith, Jackson, Mich.; No. 339,026—Flour bolt, G. T. Smith, Jackson, Mich.; No. 339,027—Clasp for attaching bolt cloths, G. T. Smith, Jackson, Mich.; No. 339,028—Seeding mechanism for middlings purifiers, C. A. Smith, Jackson, Mich.; No. 339,029—Feeding device for middlings purifier.

Life Insurance.**NEW ENGLAND MUTUAL**

LIFE INSURANCE CO.

OF BOSTON.

Assets, - - - - - \$17,846,546.65
Liabilities, - - - - - \$15,288,761.16

Total Surplus, - - - - \$ 2,607,785.49

BENJ. F. STEVENS, Pres't.

JOSEPH M. GIBBENS, Sec'y.

Boiler Insurance.

AMERICAN

Steam Boiler Insurance Company

OFFICE, 45 WILLIAM ST., NEW YORK.

Cash Capital, - - - - - \$200,000

ASSETS JANUARY 1st, 1885.

U. S. Gov. Registered Bonds, of which \$100,000 is lodged with the Insurance Department at Albany, N. Y. \$216,138.00
Cash in bank and in office 10,688.72
Premiums in course of collection 16,839.35

\$243,664.33

LIABILITIES.

Reinsurance reserve 40,225.00
All other demands 2,013.27

\$ 43,149.24

WILLIAM K. LOTHROP, President.

WILLIAM E. MIDDLEY, Vice-Pres.

VINCENT R. SCHENCK, Secretary.

Fire Insurance.**CONNECTICUT**

FIRE INSURANCE CO.,

HARTFORD, - CONNECTICUT.

Cash Capital, - - - - - \$1,000,000 00

Reserve for Reinsurance, - - - 580,669 40

Outstanding Claims, - - - - 90,396 57

Net Surplus, - - - - - 303,683 78

Total Assets, Jan. 1, 1886, - \$1,974,749 75

Surplus to Policy-holders, - \$1,303,683 78

J. D. BROWNE, President,

CHARLES R. BURT, Secretary.

L. W. CLARKE, Ass't Secretary.

THE "HOPEWELL"**Turbine Water Wheel**

IS THE BEST.

For full particulars address:

A. J. HOPEWELL,

Edinburg, Va.

FILL OUT THIS BLANK PLAINLY AND SEND IT

With the proper amount of money, addressed to E. HARRISON CAWKER, Publisher, No. 124 Grand Avenue, Milwaukee, Wis. Read our Combination offer below, carefully.

Publisher UNITED STATES MILLER:

Enclosed find \$_____ for which send the UNITED STATES MILLER

for _____ year and _____

(Insert here Name of any other Papers or Books desired.)

Address _____ Name _____

Post Office _____

County _____

State _____

THE UNITED STATES MILLER SHOULD BE KEPT IN EVERY OFFICE HAVING ANY INTEREST IN THE MILLING INDUSTRY.

For One Dollar, we will send THE UNITED STATES MILLER for one year and One copy, postpaid, of either of the following useful and entertaining books, viz: *Ropp's Calculator*; *Ogilvie's Popular Reading*; *Ogilvie's Handy Book of Useful Information*; *Fifty Complete Stories by Famous Authors*; *The Great Empire City*, or *High and Low Life in New York*.

For \$1.60 will send the UNITED STATES MILLER for one year and *Webster's Practical Dictionary*, or for \$2.25 will send the paper for two years and the *Dictionary*.—For \$2.75 will send the UNITED STATES MILLER for one year and *Moore's Universal Assistant and Complete Mechanic*.—For \$3.25 will send the UNITED STATES MILLER for one year and Dr. Cowan's *Science of a New Life*, a very valuable book which every married man and woman should read.—For \$1.50 will send the UNITED STATES MILLER for one year and *"Everybody's Paint Book"*, recently published.—For \$1.25 we will send the UNITED STATES MILLER for one year and *"The Fireman's Guide, a Handbook on the Care of Boilers."* In the following list, the figures to the left of the name of each paper indicate the regular subscription price of that paper, and the figure to the right, the combination price for the UNITED STATES MILLER for One Year and the paper specified.

CLUB LIST. THE UNITED STATES MILLER, WITH

Subscription price of each paper named below:	ONE YEAR.	Subscription price of each paper named below:	ONE YEAR.	Subscription price of each paper named below:	ONE YEAR.
\$2.00 Northwestern Miller.....	\$2.50	\$1.25 Chicago Weekly Times.....	\$2.10	\$1.00 Inter-Ocean, Chicago.....	\$2.00
1.00 American Miller.....	1.50	1.00 Chicago Weekly Tribune.....	2.00	2.00 Mechanical Engineer.....	2.50
1.50 London Miller.....	2.50	5.00 Turf, Field and Farm.....	5.50	1.00 Mechanical News.....	2.00
1.00 Millstone.....	1.50	1.00 Miller Journal.....	1.50	1.50 Milling World, (Weekly).....	2.00
1.00 Modern Miller.....	1.50	1.00 St. Louis Globe Democrat.....	2.00	1.00 Miller's Review, (with flour trier).....	1.75
4.00 Hints on Mill Building(book).....	4.00	1.00 Boston Globe Democrat.....	2.00	3.00 New York Weekly.....	3.25
3.20 Scientific American.....	3.50	5.00 Bradstreet's.....	5.50	1.00 Post-Dispatch, (St. Louis).....	2.00
1.50 American Agriculturalist.....	2.00	4.00 Frank Leslie's Chimney Corner.....	4.25	3.00 St. Nicholas.....	3.60
4.00 Harper's Magazine.....	4.20	3.00 Frank Leslie's Illustrated News Paper.....	4.25	1.00 Milwaukee Sentinel.....	2.00
4.00 Century Magazine.....	4.60	2.50 Frank Leslie's Popular Monthly.....	3.15	1.00 New York Sun.....	2.00
2.50 American Machinist.....	3.20	4.50 Harper's Weekly.....	4.10	1.00 New York World.....	2.00
1.00 Millwright and Engineer.....	1.50	4.00 Harper's Bazar.....	4.10		
1.00 Deutsch-Amerikanische Mueller.....	1.50	2.00 Harper's Young People.....	2.75		

WE WILL GIVE CORRESPONDINGLY LOW RATES ON ANY OTHER PUBLICATION THE SUBSCRIBER MAY DESIRE.

ADDRESS,

E. HARRISON CAWKER,

Publisher United States Miller, No. 124 Grand Ave., Milwaukee, Wis.

N. B.—In writing for advertising rates, please state amount of space desired and length of time advertisement is to run.

43-Mill For Sale or For Rent Ads., \$1.00 per insertion. Situation Wanted Ads., 50 cents per insertion.

[OVER.]

TIM, THE WHARF-RAT.*

(Written for The St. Jacobs Oil Family Calendar, 1885, by F. H. Gassaway, "Derrick Dodd," of the San Francisco, California, "Evening Post.")
[Copied in the U. S. MILLER by permission of owners of copyright.]

You see, gents, my pal Tim an me
Wos a'takin' a quiet swim,
When a cop comes a'sneakin' along ther wharf,
An he nabs poor little Tim.

You bet it wos rough on us partners that,
Fur while Tim in ther cooler stayed,
His corner'd be tuk by s'mother boy
As ud cabbage his reg'lar trade.

So Tim went a'sniveelin' up ther street,
With me sniveelin' on behind,
When a big man outer resterrink cum,
As I guess ud been drinkin' wine;

An he axes, "Whot's this here crim'nal done?
So ther cop says, "Yer see its agin'
Ther law fur ter swim on ther city front,
So I'm runnin' this Wharf-Rat in."

An ther big man laughs as he looks at Tim,
An he sez, "How much is ther fine?—
Five dollars!—They charge ther same for a bath
They does fur a bottle er wine.

"Wall, I guess I'll pay it," and then he winks
At me an ther cop kinder queer;
"But mind yer, Rat, this is only a loan,—
You must pay it back in a year."

An he laughs agin' when Tim braced up
An looks him square in ther eye.
An sez, with his fist a'clined this way,—
"Ef I don't, sir, I hope ter die!"

Well, most on a year had gone; one day
Me an Tim wos stealin' a dip
By ther ferry wharf, when ther boat kem in
An run too hard 'gin ther slip;

An a little gal, that a big man held
A settin' upon ther rail,
Wos knocked clean over ther steamer's side
In ther shake uv a sheeps tail.

We seed 'twere ther same rich man, an knowed
Ther babby belonged ter him;
So Tim dived arter it like a duck,—
Fur I tell yer he saveyed ter swim.

Ther passengers yelled, ther bells they banged,
Till ther boat backed off from ther;
Then we seed my pal cotched onter a pile,
A grippin' ther gal's long hair.

So they hauled 'em both out onter ther dock;
The gal she wos safe an sound,
But Tim had been hit by ther iron wheel,—
His side wos jest one big wound.

Ther daddy he kissed his kid, then kneeled
Where Tim lay so white an sick:
"God bless yer!" he sez, "my little man,—
Someone fetch a doctor, quick!"

"No use," sez Tim: "I'm agoin', sir,
I can't pay yer now, yer see,"
And he takes from his neck a little bag,—
"I'm four bits short," sez he.

"Don't yer savey ther boy what wos tooked up,
What yer lent ther money that day?
I'd most got it all made up, but now—
But now I never kin pay."

"Don't talk uv that," sez ther father chap,
His big tears a'runnin' free;
"You've saved my babby's life, and she's,
Wuth all ther world ter me!"

"Is she wuth four bits?" sez Tim, so weak;
"Oh! yes," sez ther man,— "Give him air!"
"Then," sez Tim, just like he wos goin' ter sleep,
"Then, mister, you and me's square."

An that wos ther last word Timmie sez,
An all them big men tall
Tuk off ther hats as my pal let go,—
Yes they did,—plug hats and all!

An a gospel sharp as wos in ther crowd,
He knelt right down by Tim.
An he told uv a Bible feller, as sed
Fur dead kids ter cum ter him.

I tell yer its hard ter lose ther pal
Yer've fit fur, starved wuth, an love;
But I'm bettin' as them as is square down here
Is square up there above!

1883. The Charles A. Vogeler Co.]

ITEMS OF INTRST.

BLUE PRINTS.—Dissolve amonia-citrate of iron, 37½ ounces in two quarts of water; dissolve 25 ounces of red prussiate of potash in 2 quarts water; mix; keep from the light. Brush upon ordinary paper in a dark room, and let dry. Put the tracing over this as a negative; when the color is olive green with metallic reflections, take the frame into the dark room, open, and wash the print in cold rain water until the lines are pure white upon a blue ground; then dry between blotting papers.

BOYCOTTING AN OLD DEVICE.—Professor Arthur T. Hadley writes: "The importance of boycotting is new and the name is new, but the practice itself, even on a large scale, is no new thing. The antislavery men were systematically boycotted by the slaveholders. The British tea traders were most actively boycotted by our fore-fathers just before the outbreak of the revolutionary war. The Jews have been boycotted in various parts of the world, off and on, for nearly two thousands years. Every community where there is any such thing as public opinion, from a nation down to a boy's school, has possessed the power of boycotting and has occasionally used it. What is it that has within five years transformed an old and commonplace practice in to an industrial weapon of enormous power and almost unlimited terrors?"

KEEPING BOILERS FREE FROM SCALE.—Mr. Rummel, of Cleveland, writes to the *Iron Trade Review* on a subject which may interest many readers:

"During the fall and winter of '82 I was employed by the firm of Layman & Son, barrel manufacturers, of Defiance, Ohio, to run a portable engine of 35 horse power. The engine was situated in the woods about nine miles from Defiance, and supplied the power for sawing oak barrel staves. I had no boiler compound with me, but remembered being told by an old and experienced engineer at one time, that he had taken oak logs and fastened them to the tubes of the boiler he used, so they were in constant contact with the water. He said they kept his boiler perfectly clean.

"I dammed up a small creek to form a sufficient body of water, cut down some oaks and threw them into it. As soon as we had commenced sawing I used to throw all the oak sawdust into the water also, and dug a narrow trench from it to a big barrel I sunk into the ground at a short distance from it. From the barrel I pumped direct to the boiler and continued using this kind of water the whole six months I was there.

"The water was very muddy all the time, as teams were always disturbing the small streams which supplied the reservoir or pond. Yet at the end of the time mentioned, on blowing out the boiler I found it as bright and clean as when perfectly new."

"Query: Can not sawdust be used to advantage generally?"

A STARCH FACTORY WANTED.—If there is any new manufacturing institution that would prove a great success in Winnipeg it is a factory for the manufacture of starch from potatoes. Already the production of these in Manitoba is much beyond the local demand, and the severe winters we have precludes the idea of shipping to eastern mar-

kets as damage by frost would surely ensue. The storing here through winter is a matter of too much care and trouble for the majority of farmers, so that a factory supplied with ample storage could lay in an unlimited stock in the fall at low figures. The raw material can be had cheaper here than anywhere else in the Dominion, and capital and mechanical skill should supply there maining elements of success.—*The Commercial* (Winnipeg).

SPECIAL BUSINESS NOTICES

BOLTING CLOTH!

Don't order your Cloth until you have conferred with us; it will pay you both in point of quality and price. We are prepared with special facilities for this work. Write us before you order. Address, CASE MANUF'G CO. Office and Factory: Fifth St., North of Waughten, Columbus, Ohio.

Every miller and manufacturer having an A 1 risk, should apply for insurance in the Allied Mutual Fire Insurance Companies, of which S. H. Seamans, Milwaukee, Wis., is secretary.

FOR SALE

A Bargain in Mill Property.

The O. PUHLMAN ROLLER FLOUR MILL, with capacity of about 100 barrels per day, together with feed run, situated in the village of Plymouth, Wisconsin, and finely located at a railroad centre for merchant trade, with a good surrounding country for feed and exchange work. Reliable water power most of the time, with large engine and boiler attached to the mill for use in case of low water. Has done a successful business, and will be sold very cheap, to satisfy encumbrances. Address for particulars,

E. P. BACON & CO.,
MILWAUKEE, WIS.

Attention!

CUSTOM and EXCHANGE MILLERS.

We have made arrangements with Potter & Huntington, whereby we can furnish one of their EXCHANGE TABLE and UNITED STATES MILLER for one year, for \$1.50; the price of the Exchange Table alone is \$1.00. This is probably the best Table ever prepared for Millers doing an Exchange or Custom Business. The range is from 25 to 36 lbs. of flour to each 60 lbs. of wheat, and corresponding amount of bran and middlings. (Toll and waste in milling deducted.) There are twelve Tables each of a different grade of wheat, and each Table a different amount of flour and feed and can be used for any amount of wheat, from two lbs. up to any No. of bushels. There is no guess work about it, but all from actual experience. By it the Miller is always sure of his allowance of Toll. Hundreds of them are being sent to all parts of the United States and Canada. Send us One Dollar and Fifty Cents and we will send the Table and credit you for one year's subscription to the UNITED STATES MILLER. Address, UNITED STATES MILLER, 124 Grand Avenue, Milwaukee, Wis.

◇ NOW READY FOR DELIVERY ◇

Every Mill Furnisher, Flour Broker, Transportation Company, Insurance Company, Flour Importer, Merchant Miller or anyone desiring to reach the Flouring Industry, should order at once.

CAWKER'S

American Flour Mill and Mill Furnishers' Directory

FOR 1886,

Is NOW READY FOR DELIVERY. In compiling this book it has been our aim to give the correct address of all firms or persons owning flouring mills in the United States and Dominion of Canada; to state wherever we have succeeded in obtaining reliable information, whether steam or water power is used; to give the capacity of mills in barrels of flour per day of 24 hours; to state whether millstones or rollers or both are used; to state whether cornmeal, buckwheat flour, rye flour or oat meal are made as a specialty, and finally to indicate by a sign whether the party opposite whose name it is placed is rated to be worth \$10,000 or more. We have also added a list of LEADING MILLWRIGHTS in almost every state and territory, and a list of the PRINCIPAL FLOUR BROKERS, FLOUR EXPORTERS AND IMPORTERS in various parts of the United States, Canada and Europe. MILLERS will find this a very valuable feature, worth many times the cost of the book to them. The SPECIAL points of information in this Directory are in most cases obtained from DIRECT CORRESPONDENCE. The Directory is published in pocket-book form, size of page about 4½ inches by 7¼, those for pocket use by commercial travelers being printed on French folio paper, thin, light and strong, and those for office use on elegant book paper. All copies are strongly and handsomely bound. In ordering, specify which kind you desire. PRICE, single copy, \$10.00; three copies, \$25.00. No deviation can or will be made from these prices.

Flour Dealers, Millers, Mill-furnishers, Insurance Companies, Transportation Companies, etc., and their traveling agents will find this a most valuable book to have for constant reference. We will send this Directory by mail, post-paid, to any address in the World on receipt of price. Order now while the work is new, and secure immediate benefit therefrom. Address all communications, and make all Checks, P. O. Orders, etc., payable to

E. HARRISON CAWKER,

Publisher, UNITED STATES MILLER,
CAWKER'S FLOUR MILL DIRECTORY, Etc., Etc.

124 Grand Avenue,

MILWAUKEE, WIS.

(OVER.)

If You Want to Extend Your Business among the Mill Owners of America,

• WHY DON'T YOU ADVERTISE IN •

THE UNITED STATES MILLER?

ESTABLISHED 1876.

A paper that reaches over 5,000 persons and firms interested in the milling business, every month. Here is the proof. Read it.

Affidavit Concerning Circulation.

STATE OF WISCONSIN, } ss.
MILWAUKEE COUNTY.

E. HARRISON CAWKER, editor and publisher of the UNITED STATES MILLER, a paper published in the interest of the FLOURING INDUSTRY, at No. 124 Grand Avenue, in the City of Milwaukee, and State of Wisconsin, being duly sworn, deposes and says that the circulation of said paper has at no time since January, 1880, been less than FIVE THOUSAND (5000) copies per month; further, that it is his intention that it shall not in the future be less than FIVE THOUSAND copies each and every month.

E. HARRISON CAWKER, Publisher.

Sworn to and Subscribed before me at Milwaukee, Wis., this 15th day of March, A. D. 1886.

ISAAC S. CLARK, Notary Public.

WHERE THE U. S. MILLER GOES.

THE UNITED STATES MILLER for April, May and June, 1886, aside from our regular subscription list will be sent to nearly all the flour mill owners in Arizona, California, Colorado, Dakota, Georgia, Idaho, Illinois, Indiana, Indian Ter., Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Montana, Nebraska, Nevada, New Jersey, Maryland, New York, Ohio, Oregon, Texas, Utah, Washington Ter., Wisconsin, Manitoba, Virginia and West Virginia. We will insert advertisements to run until ordered discontinued at the following rates: For each insertion, One page, \$35.00; One-half page, \$20.00; One-fourth page, \$11.00; One-eighth page, \$6.00; smaller ads \$1.50 per inch each insertion. We have made great efforts to increase our regular subscription list, and have met with gratifying success. Subscription price, \$1.00 per year. Try us, and we will serve you to the best of our ability. Awaiting your consideration and orders, we have the honor to be,

Yours very truly,

UNITED STATES MILLER, MILWAUKEE, WIS.

Get your Orders in early. We go to Press on 1st of each month.

Mill Builders, Mill Furnishers, Flour Brokers, Insurance Companies, Ocean, Lake and Rail Transportation Companies, Millers seeking trade with Eastern and European Flour Dealers, Millwrights, Mill Supply dealers and in short all desiring to reach the trade should not fail to order their advertisement inserted.

For advertising rates, address

E. HARRISON CAWKER,

Publisher "UNITED STATES MILLER," MILWAUKEE, WIS.

• Private • Telegraphic • Cipher •

COMPILED EXPRESSLY FOR THE USE OF

Millers, Flour and Grain Brokers, for Private Telegraphic Correspondence, either for Land or Cable Lines.

THIS CODE has been approved and is used by many of the best firms in this country and in Europe. It contains Flour Tables, Bran Tables, Middlings Tables, Flour Grades and Brands, Time of Shipment, Dates, Names of Places, American Currency, Sterling Quotations, Table on Limits, etc., Drawing Credits, etc., Selling, Buying, Orders and Offers, Consignments and Shipments on Joint Account, Miscellaneous, Market Upwards, Market Downwards, Insurance, Shipping and Freight, Shipping by Regular Lines of Steamers, Finance, Bankers' Names, Standing of Firms, Telegraphing, Advances, Commission, Stocks and Crops, Weather, Samples and Quality, Equivalent of Sacks in Barrel Quantities, Commission Tables, Interest Tables, Equivalent Flour Prices in Currency, Sterling, Francs, Guilders, and Marks, Comparative Tables, Sack and Barrel Flour, Ocean Freight Rates (Comparative Table), Sailings from Seaboard (Table), Key to Sailings from Seaboard Table, Foreign Weights and Measures, etc.

We respectfully refer to the following well-known firms: S. H. Seamans (Empire Mills), Sec'y of the Millers' National Association; E. Sanderson & Co. (Phoenix Mills), Milwaukee, Wis.; Daisy Roller Mills, Milwaukee, Wis.; Nunnemacher & Co. (Star Mills), Milwaukee, Wis.; Roots & Co., (Millers), Cincinnati, O.; C. H. Seybt, (Miller), Highland, Ill.; Kosmack & Co. (Flour Brokers), Glasgow, Scotland; J. F. Imbs & Co., (Millers), St. Louis, Mo.; E. Schraudenbach, Okauchee Roller Mills, Wis.; Winona Mill Co., Winona, Minn.; Herrick, Kirk & Co., New York; and many others. Name of firm ordering copies printed on title page with cable address, etc., free of charge, making it to all intents and purposes your own Private Cable Code. State number of copies desired when writing. Prices furnished on application. Address,

THE RIVERSIDE PRINTING CO., 124 GRAND AVENUE, MILWAUKEE, WIS.

MAXIMS FOR BUSINESS MEN.

Bishop Middleton's business maxims are:

1. Maintain dignity, without the appearance of pride.
2. Persevere against discouragement.
3. Keep your temper.
4. Be punctual and methodical in business, and never procrastinate.
5. Preserve self-possession, and do not be talked out of conviction.
6. Never be in an unfitting hurry.
7. Rise early, and be an economist of time.
8. Practice strict temperance.
9. Manner is something with everybody, and everything with some.
10. Be guarded in discourse, attentive, and slow to speak.
11. Never acquiesce in immoral or pernicious opinions.
12. Be not forward to assign reasons to those who have no right to ask.
13. Think nothing in conduct unimportant or indifferent.
14. Live within your income; be saving; avoid as much as possible either borrowing or lending.
15. In all your transactions remember the final account with your Maker.

When I dig a man out of trouble, the hole he leaves behind him is the grave where I bury my own trouble.

A good deed is never lost. He who sows courtesy reaps friendship, and he who plants kindness gathers love.

There is no disgrace in being poor. The thing is to keep quiet and not let your neighbors know anything about it.

PUBLICATIONS RECEIVED.

The April issue of THE LIBRARY MAGAZINE, containing its usual variety of current literature of the highest order, announces that with its next issue radical changes will take place. It will thereafter be published weekly instead of monthly. Without increase in price it will give an increased amount of valuable literature, and great gain in freshness and timeliness will be possible. A specimen copy will be sent free to any applicant. JOHN B. ALDEN, Publisher, 393 Pearl St., New York City. P. O. Box 1227.

THE WANDERER is the name of a new journal, published in Milwaukee, issued by the Passenger Department of the Wisconsin Central Railroad Company. It is ably conducted and contains much choice literary matter, which is enlivened by handsome illustrations. The subscription price is \$1.00 per year.

The April WIDE AWAKE opens seasonably with an ideal Easter picture, "On Easter Day," a very lovely drawing by W. L. Taylor; this is followed by a charming springtime poem, "Willy's Garden," by Kate Putnam Osgood. Lucy Larcom also has a notable poem, "A Ballad of the Hemlock-tree," with a fine full-page drawing together with text illustrations. There are some excellent illustrated stories: "Taz a Taz," by F. L. Stealy, "The Button Boy," by A. M. Griffin, "The Boy Soldiers of Cherry Valley," by Caro Lloyd, and "Diccon, the Foot-boy," by E. S. Brooks, besides "Police Panama" and "What a Frog Lived Through." The instructive papers in the number are admirable and of great variety; Mrs. Sherwood in "Royal Girls" writes of "Carmen Sylva," the Queen of Roumania, Mrs. Fremont of Madame Recamier and her faithfulness to early friends, C. F. Holder, of "Feathered Giants," Miss Harris of Alice and Phoebe Cary in her series, "Pleasant Authors," Mrs. Treat of "Cave Spiders," Julian Arnold of "An Arab Dinner Party," G. E. Vincent of "Juvenal, the Satirist," E. B. Gurton of "How to make an Aquarium," Susan Power of "What to do in Emergencies," while Mr. Adams goes on with his "Search-Questions in English Literature." There are also three fine serial stories in progress. \$3.00 a year. D. Lothrop & Co., Publishers, Boston.

THE NORTHERN MILLER & BAKER, published at Glasgow, Scotland, is a new candidate for the favor of the milling public. It is a handsome paper and is evidently edited by a man well posted in the trade. We believe it will prove a success.

We have received copies of a new English milling paper, entitled: "THE ROLLER MILLER," published at Brodheath, near Manchester, England. The early numbers speak well for its future prosperity.

HARPER'S MAGAZINE. Three new serials enrich the April HARPER'S. The authors are Charles Dudley Warner, R. D. Blackmore, and Dinah Maria Craik. Mr. Warner's series of papers, entitled "Their Pilgrimage," is a story of American society at our principal summer resorts. Mrs. Craik's novel, "King Arthur: not a love Story," is a tale of mother's love, and is to be published in three long parts, each occupying over twenty-five pages of the Magazine. R. D. Blackmore's novel deals with rural English life during the exciting times of Lord Nelson, the great admiral.

THE WISCONSIN CENSUS REPORT came to hand recently. It is quite a bulky volume and is full of valuable statistics on almost every matter in the State. It is the best work of the kind yet issued by the State.

ANNUAL REPORT OF DETROIT BOARD OF TRADE for 1885, received, for which we return thanks to Mr. Geo. M. Lane, Secretary. This report is the best in general and statistical matter, arrangements of subject and tables and typography that has ever been issued by the Detroit Board of Trade.

THE WESTERN INSURANCE REVIEW. Published by H. L. Aldrich, at No. 210 N. Third street, St. Louis, Mo., is an able exponent of the insurance business. It contains a large amount of useful information on insurance matters, and is handsomely printed. Subscription price \$3.00 per year.

We acknowledge with pleasure the receipt of The Insurance Critic, and old and widely known insurance journal, published by Mr. Geo. W. Corliss, 45 William street, New York. The subscription price is \$3.25 per year. The paper in every way deserves the patronages of those interested in insurance matters. Our readers will find an extract from it worth reading in this paper on "Mill Mutual Companies."

THE DAILY COMMERCIAL BULLETIN, published at 32 Broadway, New York, is one of the very best commercial papers in the world and should be patronized by live business men. It was established in 1865, and the subscription is \$12.00 per year.

THE FOREIGN GAZETTE, published by F. R. Sprague, Tribune Building, New York, is a new paper "devoted to international and financial topics." It is half English and half Spanish, and we judge therefore will have its principal circulation among English and Spanish speaking people. The first number is in every way highly creditable to the publishers. The subscription price is \$3.00 per year.

THE INSURANCE MONITOR is a valuable Journal to all interested in insurance matters. It is a large paper, handsomely printed and ably edited. It is published in New York City, and the subscription price is \$3.00 per year.

THE AMERICAN ENGINEER, weekly, published by M. Cowles & Jno. W. Weston, at 125 Washington st., Chicago, Ill., is the leading engineering journal of the West. Every skilled mechanic should subscribe for it. Subscription price \$4.00 per year.

THE NINTH ANNUAL REPORT OF THE BOARD OF TRADE of San Francisco, Cal. has just been received from the Secretary, Mr. Henry L. Smith. The report is very complete and is well arranged.

WHAT is said to be the largest barn in the world is situated at Papillion, Neb., covers five acres, cost \$125,000 and shelters 3,750 head of cattle. It is the intention of the owner to enlarge its capacity so as to protect 8,000. The immense structure is used for the fattening of cattle after they have been three or four years on the ranges. The great barn has a complete system of water works, and is thoroughly washed twice every day. The cattle are fed upon cooked meal—one man feeds the whole herd. All he has to do is to turn a large faucet and let the feed run to them.

HOW TO ORDER PERFORATED METAL.

The Robt. Atchison Perforated Metal Co., of Chicago, offer the following rules for the guidance of millers in ordering sieves for grain cleaning machines:

1st. State number of plates or sheets, and kind of metal wanted.

2d. State thickness by Brown & Sharpe's Standard American gauge, or in decimals of an inch. Thickness must be proportioned to size of holes.

3d. Length of plates or sheets in inches. (Note.—By length we understand the measure given to be the way the grain or seeds pass over the plates.)

4th. The width of plates or sheets in inches.

5th. The sizes of holes, and if slot, oval or oblong; state which way of the sheet you wish perforations to run.

6th. The width of margins or blanks wanted, if any, and where placed, which must be proportioned to size of holes.

7th. Send a diagram of the plates and sample of size of holes, if possible. If holes are slotted, oval or oblong, and if there are margins or blanks wanted, it is very essential that a diagram be sent to avoid mistakes and delays.

8th. If you wish the perforations set on the square, give the distance between center of holes each way.

9th. If ordering the metal for a smutter jacket, or any kind of roling screen, instead of giving just the diameter, give the circumference as you wish it and indicate how much blank you wish left for laps or for rivetting bands.

10th. If ordering for any particular kind of grain or seeds do not leave size of holes to the judgment of manufacturer, but write for samples, stating purpose for which you wish the goods.

11th. The goods are not carried in stock but made to order. Anticipate your wants by placing orders before your sieve wears out and machine stops, and much annoyance will be avoided.

COULDN'T STOP THAT BOY.—Romeyn, a Montclair (N. J.) boy aged 5, converses with his friend of equally mature years, as follows: Romeyn—"My pa is going to get me a goat."

Fairchild—"I've got twenty goats."

R.—"Where are they?"

F.—"O, they're down in New York, in pa's office."

R.—"Why don't they bring them here?"

F.—"They're sick."

A pause. Finally Romeyn speaks: "I saw Anthony's Nose last summer."

F.—"I saw Anthony himself."

R.—Anthony's Nose is a rock, and it broke off and fell into the water."

F.—I saw it fall.

Romeyn's mother, an interested listener, at this point, deemed it expedient to interpose with a moral lesson. "Why, Fairchild," said she, "did you never hear of Ananias and Sapphira?"

F.—"I knew them both."

R.'s mother—"You know, Fairchild, they were struck dead for telling lies."

F.—"Yes, I saw them struck."

R.'s mother—Fairchild, do you know where they went? [Very impressively]—They went to Hell."

F.—"I know it, I saw them go.—New York Herald.

PLEASANT PARAGRAPHS.

HIS LIP SLIPPED.—Mrs. Hamilton Herr's little girl, Cookoo, went to Delmonico's dancing class, and one day little Freddy Smith kissed her.

"Oh, Cookoo, I'm ashamed to think you should let a little boy kiss you!" said her mother.

"Well, mamma, I couldn't help it," said Cookoo.

"You couldn't help it?" exclaimed her mother.

"No, mamma. You see Freddy and I were dancing to a polka. Freddy had to stand up close to me, and all at once his lip slipped and the kiss happened.—*Hartford Times.*

SOMETHING LACKING.—The owner of one of the largest cotton-seed oil mills in the south was in New York the other day, and in the course of a business conversation the remark was made:

"Colonel, now that cottonseed oil is used in lard, butter, olive oil, paints and so on, you owners of mills ought to be happy."

"There is only one thing lacking," replied the colonel, as he heaved a sigh. "We want something to adulterate cottonseed oil.—*Wall Street News.*

"TO GREEN TO BURN."—A number of traveling men were sitting about the Palmer house rotunda the other night swapping chestnuts when a local light presenting the following: A Chicago drummer sold his last bill of goods, died and went to the infernal regions. There he was shown about the place by Lucifer himself. He was shown the pits of molten lead for New York drummers, and the sulphur caves designed for the torture of Minneapolis drummers, and the lakes of fire awaiting his own clan. Then he was taken to a room of great heat, where a number of drummers were suspended by the neck. "This," said Lucifer, "is the drying room." "The drying room?" asked the drummer. "Yes," responded the other, "these are St. Louis drummers. They are too green to burn at first, so we hang them up to dry."—*Chicago News.*

CEMETERY NEWS.—Fritz Hiener is the professional grave digger of a Texas town. He did not always pay his taxes promptly, and one day while he was hard at work digging a grave, and had got down about five feet into the bowels of the planet, he perceived a dark shadow between himself and the sun. Looking up he perceived a deputy sheriff.

"Vat's the madder now?"

"I've got a notice to serve on you for not paying your taxes."

"Mine Gott!" exclaimed the unfortunate man, protruding his head from the hole in the ground, "a man has no peace even when he is in dot grave. Vat a goontry! vat a peebles!"

Gentleman of Wealth (to member of United Order Hod Carriers out on strike)—Pat, you ought to be at work instead of loafing around the street, and your family half starved at home.

Pat—Shtarved, is it? An' sure it's meself that's trisurer av the ordher.

A shrewd mill man from Maine, being asked if the Knights of Labor affected his business unfavorably, replied: "Oh, no, not at all. When they wanted to start a lodge in

our town I joined it with all my overseers, and we are running it in a satisfactory manner for all hands."

First Socialist—Remember the meeting to-night, Joseph. Important questions to be discussed. Assassination of Bismarck, blowing up the Washington Monument, kidnapping Victoria.—

Second Socialist—I have so many duties, Heinrich, I cannot attend. I am—

"We are also going to decide whether or not we shall have beer at our meetings in future."

"What! Have our rights been questioned? Are our liberties invaded? Heinrich, when Justice calls I am at my post. I will be there."—*Philadelphia Call.*

Frank Brower, a favorite negro minstrel of olden time walked into the bar-room of the Metropolitan one morning, dusty and unkempt from a long journey, and asked for a glass of brandy. The barkeeper handed out the brandy, and then, suspicious of Frank's appearance, said, "Just pay for that before you drink it, will you?" Frank, who was as well known in New York as any man about town, looked up, astonished, and stammered, "W-w what?" "Just pay for that brandy before you drink it," repeated the bartender. "W-w-why," said Frank, leaning confidentially across the counter, "is it so im-m-m-mediately f-fatal in its effect?"

He—"Speaking of their marriage, I think they both made a very good match." She—"How can you say so? Why, she's brimstone personified and he's a perfect stick.—precisely the essentials to a good match."

A little boy about four years of age was saying his prayers at his mother's knee, and when he had finished the Lord's prayer, she said: "Now, Willie, ask God to make you a good boy." The child raised his eyes to his mother's for a few moments, as if in deep thought, and then replied: "It's no use, mamma. He won't do it. I have asked him lots o' times."

The young lady sent her intended husband her photograph, which pleased him very well. They met a day or two after, when the following conversation took place:—"It is very like you, dear. It so much resembles the real that I have kissed it over and over again." "And did it kiss you back again, William?" "Oh, no, dear." "Then it is not at all like me."

E PLURIBUS UNUM.—The young man lingered near the managing editor's desk, waiting for an appointment on the regular staff.

"But you drink?" said the manager, wishing to let the candidate down easy.

"Yes," replied the young man, "so did Alexander the Great."

"And you are a dude?" glancing at the youth's dandified dress.

"So was Disraeli."

"And you are a liar?"

"So was Napoleon Bonaparte."

"And you are head and ears in debt?"

"Like Alexander Dumas."

"And you are a glutton?"

"So was Peter the Great."

"And you swear occasionally?"

"So did George Washington."

"Are you liable to get drunk?"

"Like Daniel Webster."

"You are not a college man?"

"Neither was Lincoln."

"And then you write a wretchedly illegible hand?"

"Like Horace Greeley."

"You can't make a speech?"

"Like Grant."

"Well," said the manager, plunging at a heap of manuscript, anyhow, we don't want you; you won't do. Good morning."

The young man turned away exceeding sorrowful. "It's no sort of use," he said, "a fellow combines in his own brain and person the traits of all the great men from Alexander to Grant, and can't even get a place on a newspaper. This world is growing too fast for genius."

A DRUMMER'S LIVELY TRADE IN KANSAS.—"Travelin'?" queried the elderly passenger who must talk or die, as he leaned over and looked into the face of a young drummer.

"Guess I am," replied the young man.

"Sellin' goods?"

"Yes."

"Where do you travel from?"

"Chicago."

"Business purty good?"

"First rate; never better. I've just had one of the best trips of my experience. Took in orders like an ice cream saloon in August. Collections are good, too, and there seems to be plenty of money in the section of country I've been in. Everybody appears to be prosperous. It's fun to sell goods in a country like that."

"And where have you been travelin'?"

"Kansas."

"Kansas, eh? I thought so. That shows 'em. That's just what I've been telling all the folks down to our place. Prohibition means prosperity. When a community shuts up the saloons an' stops buyin' an' drinkin' liquor it gits along all right. It's whisky that makes the hard times. When people give up their guzzling they have plenty of money to buy boots and shoes, and clothing and groceries, and the necessities of life. By the way, do you travel for a grocery?"

"No, sir."

"For a boot and shoe house, mebbe?"

"No."

"Like as not for a clothing concern?"

"No'p."

"What then?"

"A distillery."

BELONGED TO THE MATINEE.—My little girl is very fond of going to church. She is nearing the thoughtful age of six, and she asks me a good number of questions about things in general, and among others about church-going. She found out not long since that people "belonged" to churches, some to this one and some to that, and her idea seemed to be that people picked out their churches principally on account of the fine organs, or the architectural beauties of the interior. At present I think the church that had the handsomest stained-glass windows, or the best-toned organ would secure that little girl's membership. She said to me the other day:

"Papa, do we belong to a church?"

"I don't think we do—yet."

"Oh," she answered, "I know. We belong to the matinee, don't we papa?"—*Detroit Free Press.*

EVERYONE IN CHARGE OF A BOILER SHOULD HAVE A COPY.

THE FIREMAN'S GUIDE.

A HANDBOOK ON

THE CARE OF BOILERS:

By Teknologforeningen T. I., Stockholm. Translated from the Third Edition, and Revised
BY KARL P. DAHLSTROM, M. E.

The following are the titles of articles in this book:
After starting the Fire; Alarm Whistle; Arrangements for Ascertaining the Water-line; Best time to Blow out; Blowing Out Partially; Blowing out Totally; Care of the Boiler when not in Use; Care of the Fire; Care of the Fire during short Stops in the Work; Causes of Foaming; Cleaning Out; Cleaning the Boiler; Cleaning the Grate-bars and Ash-pan; Decreasing the Draft, etc.; Defective Feeding Apparatus; Do not Stir the Fire; Dry Fuel; False Water-line; Feeding; Fire and Clean Out Rapidly; Firing into Two or more Furnaces; Formation of Scale; Fuel on the Grate; How to prevent Accidents; Loss of Heat; Low Water; Precautions before Starting a Fire; Precautions as to Closing the Dampers, etc.; Precautions when the Water is low; Precautions on Drawing the Fire; Progress of Firing; Proper Firing; Refilling the Boiler; Regulating the Draft; Repairs; Safety Plug; Safety Valves; Smoke from the Chimney; Steam Pressure; Test in the Boiler; The Float; The Gauge Cocks and Glass Gauge; The Steam Gauge; The Water; The Water-line; To Examine the State of the Boiler; Trimming and Cleaning outside.

Flexible cloth, price 50 cents, sent free by mail on receipt of price, or a copy of the United States Miller for one year and the book for \$1.25. Address all orders to
E. HARRISON CAWKER,
PUBLISHER U. S. MILLER, Milwaukee, Wis.

Spon's * Mechanics' * Own * Book,

A MANUAL FOR HANDICRAFTSMEN AND AMATEURS.

Now Ready. Containing 702 pages, 8vo. cloth, with 1420 illustrations.

The title of this work almost suffices to indicate the character of the contents. The various mechanical trades that deal with the conversion of wood, metals and stone into useful objects are explained from an every-day practical view.

The method of treatment of each branch is scientific, yet simple. First in order comes the raw material worked upon, its characters, variations and suitability. Then the tools used in working up the material are examined as to the principles on which their shape and manipulation are based, including setting, handling and cleaning. A third section, where necessary, is devoted to explaining and illustrating typical examples of the work to be executed in the particular material under notice. Thus the book forms a complete guide to all the ordinary mechanical operations; and whilst professional workmen will find in it many suggestions as to the direction in which improvements should be aimed at, amateur readers will be glad to avail themselves of the simple directions and ingenious devices by which they can in a great degree overcome the disadvantage of a lack of manipulative skill. Price \$2.50 postpaid. Address
E. HARRISON CAWKER,
PUBLISHER U. S. MILLER, Milwaukee, Wis.

HASWELL'S

Engineers' Pocket Book.

NEW EDITION.

Enlarged and Entirely Re-written.

From New Electrotype Plates.

Mechanics' and Engineers' Pocket-Book of Tables, Rules, and Formulas, pertaining to Mechanics, Mathematics and Physics, including Areas, Squares, Cubes, and Roots, etc.; Logarithms, Steam and the Steam Engine, Naval Architecture, Masonry, Steam Vessels, Mills, etc.; Limes, Mortars, Cements, etc.; Orthography of Technical Words and Terms, etc., etc.; FORTY-FIFTH EDITION, Revised and Enlarged. By CHARLES H. HASWELL, Civil, Marine and Mechanical Engineer, Member of Am. Soc. of Civil Engineers, Engineers' Club of Philadelphia, N. Y. Academy of Sciences, Institution of Naval Architects, England, etc. 12mo, Leather, Pocket-Book Form, \$4.00.

"I cannot find words to express my admiration of the skill and industry displayed in producing the same. To you belongs the honor of having presented to the world a book containing more POSITIVE information than was ever before published. I could with justice say more."—Extract from a Letter to the Author from Capt. John Ericsson, the celebrated Engineer.

The above work sent by mail, postage prepaid, to any part of the United States or Canada, on receipt of the price.
Address E. HARRISON CAWKER, Publisher of the UNITED STATES MILLER, No. 124 Grand Av., Milwaukee, Wis.

OGILVIE'S HANDY BOOK

OF USEFUL INFORMATION,

and Statistical Tables of Practical Value for Mechanics, Merchants, Editors, Lawyers, Printers, Doctors, Farmers, Lumbermen, Bankers, Bookkeepers, Politicians, and all classes of workers in every department of human effort, and containing a compilation of facts for reference on various subjects, being an epitome of matters Historical, Statistical, Biographical, Political, Geographical, and of General Interest.

No more valuable book has ever been offered containing so much information of practical value in everyday life. The following TABLE OF CONTENTS will give some idea of its value:

American Geographical Names, with their Derivation and Signification; Abbreviations in Common Use and their Signification; American History, Chronological Table of: Alphabet, Deaf and Dumb; Area, Population, and Debts of Principal Countries of the World; Animals, Powers of Locomotion of; Alcohol, Percentage of in various Liquors; Animals, Duration of Life of; Biographical Register; Business Vocabulary; Board and Timber Measure; Brass, Weight of; Brokers' Technicalities; Capitals, the use of; Coins of Foreign Nations; Cisterns and Reservoirs; Circles, Diameter, Circumference, Area; Copper, Weight of; Coins of United States; Weight of; Distances to Various Parts of the World; Food, Warmth and Strength Derived from; Food, Percentage of Nourishment in; Grains, Vegetables, and Fruits, Comparative Yield of; Holdings Legal, in United States; Information for Business Men; Interest Tables; Iron Cast, Tables of; Iron Bar, Tables of; Iron Sheet, Tables of; Iron Plate, Tables of; Logs Reduced to Board Measure; Lead Pipe, Sizes and Weights; Lengths, Scripture, Measure of; Moulders' Table; Medical Department; Mythological Dictionary; Musical Terms, Dictionary of; Mountains, Highest in the World; Money, Roman; Monuments, Towers, and Structures, Height of; Punctuation, Marks and Capacity of; Names Popularly Given to Places, Cities, etc.; Population of Principal Cities in the United States; Presidential Rules of; Parliamentary Rules and Usages; Paper, Sizes of; Proof correcting, Rules of; Rivers, Lengths of; Ready Reckoner; Rules of the United States; Plank and Board Measure; Proof correcting, Rules of; Rivers, Lengths of; Ready Reckoner; Spelling, Simple Rules for; Seas of the World; Screws, Thread; Steel, Tables of; Substances, Various, Expansion, Heat, and Conducting Power of; Snow, Perpetual Limit of; Table of Weights and Measures; Time, Divisions of; Timber and Board Measure; Titles in Use in the United States; Useful Items for Daily Remembrance; Wood and Bark Measurement, Wood and Bark, value of; Weights and Measures, Metric System of Weights and Measures, Tables of; Wood, Comparative Weight of.

The book contains 128 pages and is handsomely bound. We guarantee perfect satisfaction in every respect. Price Fifty cents per copy.

We will send a copy of Ogilvie's Handy Book and the UNITED STATES MILLER for one year for One Dollar postpaid to any address in the United States or Canada. Address E. HARRISON CAWKER, Publisher UNITED STATES MILLER, Milwaukee, Wis.

MOORE'S UNIVERSAL ASSISTANT

and Complete Mechanic

Contains 1016 Pages, 500 Engravings, and over 1,000,000 Industrial Facts, Calculations, Receipts, Processes, Trade Secrets, &c., in every business.

For sterling Value, Elegance, and Low Cost, this Work has no Competitor in the English Language. What Others Say:—"A regular condensed Universal Encyclopedia containing processes, rules, &c. in over 500 different trades and occupations with Tables for all possible calculations."—MANUFACTURER AND BUILDER. "Forms COMPLETE TREATISES on the different subjects."—SCIENTIFIC AMERICAN. "The information given is worth ten times its cost."—ED. WEST M'FAR. "Should have a place on the shelf in every library."—CAN. MECHANIC'S MAGAZINE. "The 'UNIVERSAL ASSISTANT' is a reference library in itself."—AMERICAN GROCER. "Contains information on almost every subject under the sun."—GRANGE VISITOR. "It is crammed full of solid information on all the practical affairs of life."—WEST FARMER. "Is of itself an ample, pleasing and useful study for the whole winter."—MR. FARMER. "A reliable work, would willingly pay \$10 for it if necessary."—H. DINKIN. "Gives information of great value to every Engineer, Mechanic and Artisan."—AM. MILLER.

"This may be called the Book of Wonders, for it has a compilation of information from all avenues of knowledge. Nowhere else can such a mine of intellectual wealth be found; should be in every household; certainly in every office and workshop."—KANSAS CITY TIMES.

"We most heartily commend the 'UNIVERSAL ASSISTANT AND COMPLETE MECHANIC' as well high indispensable to any Miller, Farmer or business man."—LEFFEL'S NEWS. "The most complete and valuable of any work of its kind we have ever seen."—AM. MACHINIST. "The COMPLETE MECHANIC is the best and cheapest work of its class published."—FREDERICK KEPT, Engineer. Sample Copy by mail for \$2.50.

A new and Revised Edition of this Invaluable Work has just been issued, containing a complete index which increases its value ten fold. It is really a \$10.00 book for \$2.50. Price in Cloth binding \$2.50. We will send the above book post paid, and a copy of the UNITED STATES MILLER for one year, for \$2.75, to any address in the United States or Dominion of Canada. Address all orders to E. HARRISON CAWKER, Publisher, No. 124 Grand Avenue, Milwaukee, Wis.

A BOOK YOU WANT!

The Science of a New Life.

BY JOHN COWAN, M. D.

A graduate of one of the oldest chartered Colleges in America, viz: The College of Physicians and Surgeons of New York City.

The ancients were ever longing and searching for an *Elixir Vitæ*—the Water of Life—a draft which would enable you to live forever. "THE SCIENCE OF LIFE" will unfold to you a better elixir than the ancients ever dreamed of in their wildest flights of imagination; for, although it will not enable you to live forever, yet its pages contain information that, if heeded and obeyed, will endow you with such a measure of health, strength, purity of body and mind, and intense happiness, as to make you the envied of mankind—a MAN among men, a WOMAN among women.

Men of influence, position, of high attainments, widely known throughout the world as ministers, authors, physicians, etc., certainly would not so warmly endorse "THE SCIENCE OF A NEW LIFE" as they have done if it were not of sterling merit. Besides the names here given, of such as have so commended the work, the publishers have letters from other eminent men, whose names, for want of space, we cannot publish. Francis E. Abbott, Editor "Index", Boston; Rev. Wm. R. Alger, Boston; Rev. E. H. Chapin, D. D., Ed. "Christian Leader", New York; "Jennie June" Croly, Ed. "Demorest's Mag.", New York; Rev. W. T. Clarke, "The Daily Graphic", New York; Rev. Warren H. Cudworth, Boston; Rev. Charles F. Deems, D. D., Ed. "The Christian Age", Church of the Strangers; Judge J. W. Edmonds, New York; Rev. O. B. Frothingham, New York; Mrs. Francis Dana Gage, New York; Wm. Lloyd Garrison, Boston, Mass.; Rev. Geo. H. Hepworth, "Church of Disciples", New York; Oliver Johnson; Dr. Dio Lewis, Boston, Mass.; Mrs. Clemence S. Lozier, M. D., Dean of the Medical College for Women; Gerald Massey, Poet and Lecturer, England; D. D. T. Moore, Ed. "Rural New Yorker", New York; Rev. W. H. Murray, Boston, Mass.; Hon. Robert Dale Owen; James Parton, New York; J. M. Peebles, Ex-U. S. Consul; Wendell Phillips, Boston, Mass.; Parker Pillsbury; Rev. T. De Witt Talmage, Ed. "Christian at Work"; Theodore Tilton; Moses Coit Tyler; Mrs. Caroline M. Severance, W. Newton, Mass.; Hon. Gerritt Smith; Mrs. Elizabeth Cady Stanton, New York; Dr. H. B. Storer, Boston, Mass.

"In a careful examination of Dr. Cowan's 'SCIENCE OF A NEW LIFE', I am prepared to give it my very cordial approval. It deserves to be in every family, and read and pondered, as closely relating to the highest moral and physical well-being of all its members. *** May it be circulated far and wide."—WILLIAM LLOYD GARRISON.

"It seems to us to be one of the wisest and purest and most helpful of those Books which have been written in recent years, with the intention of teaching Men and Women the Truths about their Bodies. *** No one can begin to imagine the misery that has come upon the human family through ignorance upon this subject."—THE CHRISTIAN UNION.

"THE SCIENCE OF A NEW LIFE" is printed from beautiful clear, new type, on fine calendered tinted paper, in one volume of over 400 octavo pages, containing 100 first-class engravings, and a fine steel-engraved frontispiece of the author. We will send a copy of "THE SCIENCE OF A NEW LIFE" bound in cloth, bevelled frontispiece of the author. For one year, post paid, for \$3.00, or the book only for \$3.00, to any address in the WORLD. Remit by postal order, postal note, \$3.25, or the book only for \$3.00, to any address in the WORLD. Address all communications and registered letter or bank draft on New York, Chicago or Milwaukee. Address all communications and make all remittances payable to order of E. HARRISON CAWKER, Publisher of the UNITED STATES MILLER, No. 124 Grand Avenue, Milwaukee, Wis.

5 COPIES FOR \$4.00, sent post-paid to any address.

WEBSTER'S PRACTICAL A NEW DEPARTURE IN DICTIONARIES.

An Industrial Revolution.—In a large Connecticut manufacturing establishment there is in operation a new style of furnace which produces more steam-power from a consumption of 1,000 lbs of coal than can be generated from 20,000 lbs burned in the ordinary way. In other words, the new contrivance already saves nineteen-twentieths of the fuel, and it is believed that before being publicly announced it will be so improved that the saving will reach 49 fiftieths! The facts already developed are simply incredible to one who has not actually seen them verified.

A Remarkable Coincidence.—While the new Furnace was in process of construction, the editors and publishers of Webster's Unabridged were engaged upon their new work which is as great an improvement upon all previous Dictionary productions, and just as valuable in its way as is the incredible fuel economizer above alluded to. Webster's Practical is not only a new compilation by the leading Dictionary House of the world, but it embodies several new features which, for ordinary use, render it pre-eminent among dictionaries—not excepting even the Unabridged.

1st, Condensation.—By grouping all derivative and compound words under their root or leader (as in the "Book" example quoted below), such words are adequately treated in one-third of the space required by the old arrangement. By this means nearly all the desirable material of the four and five-dollar dictionaries is presented in a convenient and handy form in Webster's Practical.

2d, Association.—We comprehend as well as remember things chiefly by their associations. For this reason any one who shall carefully read the "Book" paragraph which we reproduce from Webster's Practical Dictionary, will not only comprehend it more readily, but will be able to remember two or three times as much as would be gained by reading about the same words when treated separately as in other works.

3d, Ready Reference.—Not only do we comprehend and remember more readily by the new grouping method, but we do it in less than a fourth of the time required when the words are classified in the old way. Hence, no one who values time would hesitate to pay one dollar for Webster's Practical rather than accept the best of the older dictionaries as a gift.

4th, Derivative Terminations.—Only the larger dictionaries hitherto published give the derivative terminations. The New American Dictionary, for instance, does not give any of the four variations of so common a word as forbear, while they are all given in Webster's Practical.

5th, The Illustrations.—In Webster's Practical are more numerous and better executed than those of any other abridged or low-priced dictionary.

6th, Prefixes and Suffixes.—Another important feature of Webster's Practical is its peculiar treatment of prefixes and suffixes, which is believed to be more desirable than a separate department of two or three hundred pages which is sometimes allotted to them.

7th, Compendium Matter.—Still another invaluable feature of Webster's Practical is its compendium matter, over one hundred pages of which is devoted to the most complete Pronouncing Vocabulary ever compiled of Biblical, Classical, Mythological, Historical and Geographical Proper names. With Webster's Practical Dictionary at hand, one need not be at a loss to correctly pronounce or spell the most difficult words.

8th, An Invaluable Book.—The importance of supplying every child with Webster's Practical for his very own, is not generally appreciated. As an educator it is worth a hundred times its price, and a little self-denial to provide one or more copies in every family will prove a better economy than an endowment of hoarded bank-stocks later on in life.

The following paragraph is reproduced from Webster's Practical.

Book, book, n. A collection of sheets of paper, etc., bound together; a literary composition, written or printed; a subdivision of a literary work. (*Mer.*) A volume in which accounts are kept. — *v. t.* (booked) (bookt), (booked). To enter, or register in a book. — **Book'ish, a.** Given to reading; more acquainted with books than with men. — **Book'-bind'er, n.** One who binds books. — **bind'ery, n.** A place for binding, etc. — **bind'ing, n.** Art or practice of, etc. — **case, n.** A case with shelves for holding books. (*Bind.*) A book-cover. — **cover, n. (Bind.)** A case for a book; a cover of cloth or other material prepared for casing a book. — **keep'er, n.** One who keeps accounts. — **keep'ing, n.** Art of recording mercantile transactions and keeping accounts. — **learned, -l'rd, a.** Versed in books; ignorant of life. — **learn'ing, n.** Learning acquired by reading, esp. as opp. to practical knowledge. — **mak'er, n.** One who writes and publishes books; a compiler; a sporting man who makes a record of bets. — **mak'ing, n.** The practice of, etc. — **compilation; systematized betting.** — **mark, n.** Something placed in a book by which to find a particular place. — **plate, n.** A label indicating ownership, place in a library, etc., usually on the inside of the cover of a book. — **post, n.** The post-office arrangement by which books are mailed. — **sell'er, n.** One who sells books. — **shelf, n.** A shelf to hold books. — **shop, stall, store, n.** A place for selling books. — **stand, n.** A stand for selling books in the streets; book-stall; a support to hold books. — **worm, n.** A worm or mite that eats holes in books; one excessively addicted to study.

THE QUANTITY TEST.

(The following exhibits are from the texts of the dictionaries named.)

Webster's Practical Dictionary, (\$1) 600,000 Words and 1,400 Illustrations.
New American Dictionary, (\$1) 240,000 Words and 116 Illustrations.
National Popular Dictionary, (\$1) 240,000 Words and 116 Illustrations.
National Standard Dictionary, (\$1) 210,000 Words and 613 Illustrations.

Quality Test.—Aside from all advantages above alluded to, there is still another and very important feature of the new work to be considered, viz: its quality as compared with the cheap dictionaries which have had the largest sales, and which have been compiled chiefly from the old editions of Webster on which the copyrights have expired. Hence Webster's Practical contains more matter than any other dollar dictionary. Its quality, to say the least, is the very best, while its arrangement and all other new and desirable features, including first-class illustrations, paper, printing and binding are added without extra charge.

A Subscription Book.—As Webster's Practical is not for sale at book-stores, our readers will be able to procure it only from canvassing agents, unless it be ordered in connection with this journal in accordance with our special offers. Our arrangements with the Sole Agent (S. S. Wood, 134½ W. 33d St., N. Y.) enable us to announce the following Special offers:

For \$1.60 we will send the UNITED STATES MILLER for one year and a copy of WEBSTER'S PRACTICAL, post paid to any address in the world, or for \$2.25 we will send WEBSTER'S PRACTICAL and the UNITED STATES MILLER for 2 years to any address, or we will send 5 copies of WEBSTER'S PRACTICAL to any address for \$4.00. Address all orders to E. HARRISON CAWKER, Publisher of the UNITED STATES MILLER, No. 124 Grand Avenue, Milwaukee, Wis.

Music for Millers, their Sisters, Cousins, Aunts and Friends.

THE NATIONAL SONG FOLIO.

The best and handsomest Song Book ever published at any price, containing 225 full size music pages, 76 complete vocal compositions, every one a gem, any two of them worth more than the price of the book, and several of them purchased from the Authors and Composers especially for this work, and never before in print.

The books are elegantly bound in seven-colored, lithographed covers, most beautiful in design and execution. We do not mean patent metal or molded mud imitations of Lithography, but the finest production of the most skilled artists in the business. Do not fail to send for a copy.

PRICE IN PAPER COVERS, - - - 50c.
BY MAIL, " " - - - 63c.

THE NATIONAL PIANO FOLIO.

Published in uniform size and style with the National Song Folio, containing 228 pages of choice music for the Piano Forte, consisting of 61 unabridged and well selected Rondos, Fantaisies, Themes, Transcriptions, Nocturnes, Caprices Gavottes and other new and standard compositions, bound in seven colored covers.

Remember, these are not the stale, unsaleable pieces of old fogy publishing houses, but the very best selections, printed from new plates, many of them made especially for this book.

Be sure and order The "National Piano Folio."

PRICE IN HANDSOME CLOTH BINDING, - - \$1.00
BY MAIL " " - - - 1.20

Or, either one of the above books BOUND IN PAPER, and a copy of the UNITED STATES MILLER for \$1.25, or the CLOTH BINDING for \$1.70 Address all orders to E. HARRISON CAWKER, publisher UNITED STATES MILLER, Milwaukee, Wis.

Private Telegraphic Cipher

Compiled expressly for the use of

MILLERS, FLOUR AND GRAIN BROKERS,

For private telegraphic correspondence, either for land or cable lines.

This CODE has been approved and is used by many of the best firms in this country and in Europe. It contains Flour Tables, Bran Tables, Middlings Tables, Flour Grades and Brands, Time of Shipment, Dates, Names of Places, American Currency, Sterling Quotations, Table on Limits, etc., Drawing, Credits, etc., Selling, Buying, Orders and Offers, Consignments and Shipments on Joint Account, Miscellaneous, Market Upwards, Market Downwards, Insurance, Shipping and Freight, Shipping by Regular Lines of Steamers, Finance, Bankers' Names, Standing of Firms, Telegraphing, Advances, Commission, Stocks and Crops, Weather, Samples and Quality, Equivalent of Sacks in Barrel Quantities, Commission Tables, Interest Tables, Equivalent Flour Prices in Currency, Sterling, Francs, Guilders, and Marks, Comparative Tables, Sack and Barrel Flour, Ocean Freight Rates (Comparative Table), Sailings from Seaboard (Table), Key to Sailings from Seaboard Table, Foreign Weights and Measures, etc.

We respectfully refer to the following well-known firms: S. H. Seamans (Empire Mills), Sec'y of the Millers' National Association; E. Sanderson & Co. (Phoenix Mills), Milwaukee, Wis.; Daisy Roller Mills, Milwaukee, Wis.; Nunnemacher & Co. (Star Mills), Milwaukee, Wis.; Roots & Co. (Millers), Cincinnati, O.; C. H. Seybt (Miller), Highland, Ill.; Kosmack & Co. (Flour Brokers), Glasgow, Scotland; J. F. Imbs & Co. (Millers), St. Louis, Mo.; E. Schraudenbach, Okauchee Roller Mills, Wis.; Winona Mill Co., Winona, Wis.; and many others.

Name of firm ordering copies printed on title page with cable address, etc., free of charge, making it to all intents and purposes your own Private Cable Code. State number of copies desired when writing; also style of binding preferred.

Address:

The Riverside Printing Co.,

No. 124 GRAND AVENUE, MILWAUKEE, WIS.

EVERYBODY'S PAINT BOOK

A new work on INDOOR and OUT-DOOR painting which is designed to teach people how to DO THEIR OWN PAINTING and save the expense of a professional painter. The most practical and valuable work of the kind ever issued. Full directions are given for mixing paints for ALL PURPOSES. Tells all about PAINT, PAINTING, KALSOMINING, STAINING, VARNISHING, POLISHING, as well as how to RENOVATE FURNITURE, so that it will look as good as new. Tells all about HOUSE-CLEANING with paint and kalsomine. Full directions are given for making the beautiful SPATTER-WORK pictures in which the ladies are so much interested. Tells how to paint OUT-BUILDINGS, ROOFS, FARM WAGONS, FARM IMPLEMENTS and CARriages as well as how to paint a PIANO or ORGAN; how to imitate GROUND GLASS or make paint for BLACKBOARDS; GRADING in oak and black walnut, painting in imitation of EBONY, MAHOGANY and ROSEWOOD stain, GILDING, BRONZING and SILVERING. Beautifully printed, beautifully bound. WILL SAVE ITS COST in a short time. Send by mail on receipt of price, One Dollar.



We will send a copy of the UNITED STATES MILLER for one year, and a copy of 'EVERYBODY'S PAINT BOOK,' post paid, to any address, for \$1.50. Address E. HARRISON CAWKER, No. 124 Grand Avenue, Milwaukee, Wis.

THE NATIONAL DANCE FOLIO.

An elegant selection of popular and fashionable PARLOR DANCES. Peculiarly adapted for the use of SOCIAL HOME PARTIES.

Consisting of Quadrilles, Lancers, Galops, Polkas, Waltzes, Contra and Fancy Dances etc. etc.; a splendid collection of the latest approved compositions, together with the old favorite Reels, Hornpipes, Jigs, etc., "Money Musk," "Devil's Dream," "The Tempest," "Cicilian Circle," and others, with call for the different figures.

Printed and bound in same style and size as the National Song and National Piano Folio.

SAM'L E. DUNHAM & CO.,
COMMISSION
Provisions and Grain
ROOM 83,
Board of Trade, CHICAGO.

The purchase of grain for shipment to home markets
a specialty.

N. S. CLARK.

A. C. MARTIN.

CLARK & MARTIN,
Commission Merchants

FLOUR, GRAIN,
FEED AND HAY,

No. 51 West Second St., Cincinnati, O.

PATTERSON BROS. & CO.,
Commission Merchants

FOR SALE OF
WHEAT, CORN, OAT^s, RYE.
DEALERS IN

Seeds, Hominy, Grits, Steam Dried Corn Meal.

44 VINE ST., CINCINNATI.

ORDERS AND CONSIGNMENTS SOLICITED.

ESTABLISHED - - - - - 1876.

JNO. R. TURRENTINE,
—GENERAL—
Merchandise and Produce Broker,
FLOUR, GRAIN, HAY AND RICE.
Dock Street, WILMINGTON, N. C.
MEMBER OF CHICAGO BOARD OF TRADE.

Refers by permission to A. K. Walker, Esq., cashier
First Nat'l Bank, Hall & Pearsall, Adrian & Vollers,
Merchants, Wilmington; Robt. Carey & Co., New Or-
leans, La.; Geo. P. Plant & Co., St. Louis, Mo.; Martin
& Bennett, Chicago, Ill.

Solicits Orders for Carolina Rice and Peanuts.

Preserve your Copies of the

UNITED STATES MILLER

—IN AN—

ULLRICH BINDER

This binder is suitable for binding your copies of
the UNITED STATES MILLER for two or more years,
any required number can be taken out without dis-
turbance its contents. Binders made for all Publica-
tions, for binding Music, etc.

ITS EQUAL CANNOT BE FOUND.

Send post paid for \$1.10. Address

UNITED * STATES * MILLER,
MILWAUKEE, WIS

J. R. TOLLESON, Pres't.

CAPITAL STOCK, \$10,000.

o — THE — o
Tolleson Commission Co.,
49 Gate City National Bank Building,
ATLANTA, GA.

Correspondence Solicited. Information Promptly and Accurately Furnished.
CASH ADVANCES MADE ON CONSIGNMENTS.

FLOUR, BRAN, GRAIN AND HAY.

We have excellent facilities for handling the above articles—not only in Atlanta
(our headquarters), but all over the Southwest. Having travelling representatives,
we intend selling Flour, Bran, Grain and Hay in large quantities, to responsible
houses, at full market prices.

Our manager formerly represented the Wing Milling Co., of St. Louis, for whom
he sold an average of 8,000 bbls. of Flour per month. Will be glad to have parties make
us prices f. o. b. cars, or delivered at nearest point on Ohio or Mississippi River.

Use either the "Robinson" or "Underwood" Cypher in telegraphing.

GIVE US A TRIAL! If there is any virtue in energy, care and fair dealing, we
will succeed in doing a large business in a manner

SATISFACTORY TO ALL CONCERNED.

For any information regarding our manner of transacting business, we refer, by
permission, to Gate City National Bank, Moore, Sims & Co., Akers & Bros., Joseph
Smith, and the business men of Atlanta generally.

THE TOLLESON COMMISSION CO., Atlanta, Ga.

HARVEY & OUTERBRIDGE,

Rooms 305, 307 and 309, New York Produce Exchange Building,

NEW YORK, N. Y.

EXPORTERS AND SHIPPERS

— OF —

FLOUR.

Make Purchases of all Grades of Flour direct from mills, and act
as transfer and financial agents for consignments to our
constituents in foreign markets.

Information furnished of foreign markets, and correspondence
promptly replied to.

GEORGE HOPPIE.

LEWIS D. HOPPIE.

HOPPIE BROS.,

BROKERS

— AND —

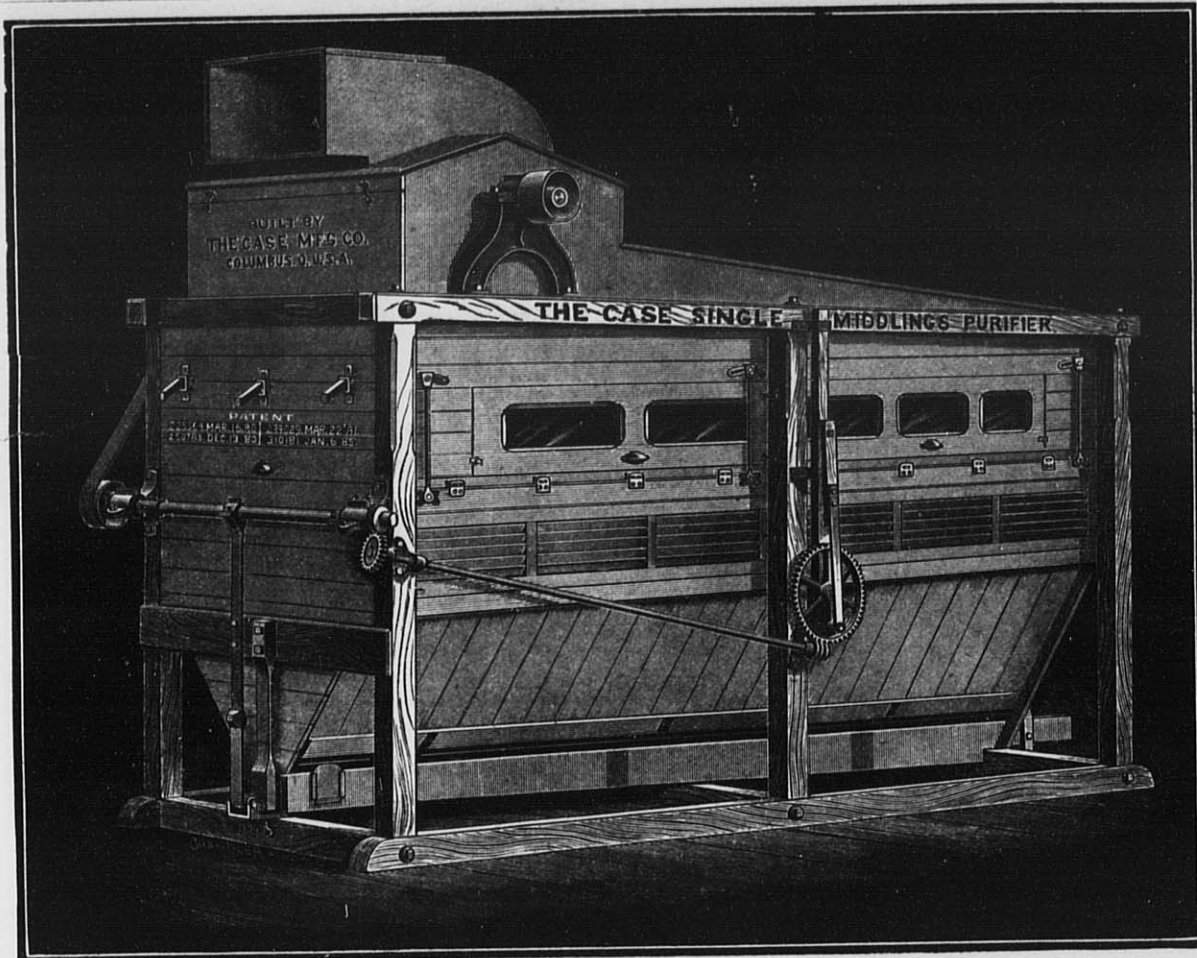
Commission Merchants,
ATLANTA, GA.

SPECIALTIES: FLOUR, GRAIN, HAY AND LUMBER.

We make liberal advances on consignments in solid car lots. Use the "Robin-
son" or "Underwood" Cypher Codes in wiring us. We refer, without permission,
to Atlanta National Bank, Merchants' Bank of Atlanta, Tanner, Currier & Heath,
H. A. Fuller & Son, Frazier & Morgan, and the Flour and Grain Trade of Atlanta,
generally.

OFFICE, NO. 4 KIMBALL HOUSE, WALL ST.,

Lock Box 175. ATLANTA, GA.



OUR "SPECIAL" PURIFIER,

RECENTLY IMPROVED AND PERFECTED.

THIS machine has some new and very valuable features, and we think we can justly say it is the **PRINCE PURIFIER OF THE WORLD.** It has an enclosed case or sides. It has the lightest Shaker made. It has no conveyors to wear the middlings. It has a complete aspirator at the tail. It has a double shaking spout for a cut-off. It has our perfect Automatic Feed. It has our unequaled Cloth Cleaner. It has brass eccentrics three inches long. It has the most perfect control of the blast. It is guaranteed to run five years without any attention except to oil the bearings, and is beyond any question the most perfect, practical, and complete machine made in the world. We will back this statement up by placing it on trial beside any other Purifier made, and if it does not prove all we claim, it may be removed. We know just what we are talking about, and will enter into public tests, and pay all expenses of same, if others can be induced to do so.

Our Purifiers have no "pockets" to fill up and interfere with the working of the dust collector. They have no subdivided compartments to catch dust and allow it to slide back on the riddle. They have no brush to wear out the cloth, and drop barrels of good middlings each day into the tailings and low grade stock, a waste which costs the millers of this country *hundreds of thousands of dollars annually, but they don't observe it.* They have no roller feed to choke off, or feed half the time only half the width of riddle, thus tailing off rich material and permitting the middlings to be poorly purified. Hundreds of thousands of dollars are lost each year by the millers through *imperfect feed.*

We have none of these imperfections which can be found on the so-called "Standard Purifier," and remember we have not made a statement in this circular about Purifiers but what is **GOSPEL TRUTH.**

During the past year we have settled all disputes with the Consolidated Middlings Purifier Company, so that the Purifiers now made by us are licensed under all patents, about one hundred in number, owned by that Company; besides being protected by our own patents, which embody several most valuable and important features, owned and controlled exclusively by ourselves.

OUR IMPROVED ROLLS

are gaining friends wherever they go. They are the most durable and easily handled of any Roll on the market. They are finely finished in the light of the mechanical arts. Many millers have asked us, "Were not these machines made expressly for some Exposition?" and no wonder, for each one is a model of elegance. Our **PATENT AUTOMATIC FEED** should never be lost sight of when you are buying a Roll or Purifier. It always runs like clock-work, and even better, for it never stops when it should run, neither does it go too FAST or too SLOW. IT GOES JUST RIGHT.

A full supply of Bolting Cloths, Belting, Pulleys, Cups, etc., always on hand. Write us for estimates on Flour Mills or our "SPECIAL" Corn Meal System.

— ADDRESS —

THE CASE MFG. CO.

COLUMBUS, OHIO.